SILICON
CONSULTING ENGINEERS

Our Ref No: SILICON/ 04/2021-22 Date 01-07-2022

To,

THE ASSITANT EXECUTIVE ENGINEER
Vidyaranyapura Sub Division,
Byatarayanapura Division,
BBMP Office,
Bangalore.

Respected Sir,

Sub: - Consultancy service for preparation of detailed project report (D.P.R) for the 5 works in Byatarayanapura division. Package-3

Regarding:-Submission of Detailed Project Report

With reference to the above subject and work reference, we are submitting herewith Detailed Project Report for the work **Consultancy service for preparation of detailed project report (D.P.R) for the 5 works in** Byatarayanapura division. Package-3, and submitted for you future needful action.

Thanking you,

Yours faithfully

For Silicon consulting Engineers

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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
Bruhat Bengaluru Mahanagara Palike

DETAILED PROJECT REPORT

CONSULTING SERVICES FOR PREPARATION OF DETAILED PROJECT REPORT FOR

Name of Work: Package-03

COST OF THE PROJECT: 1100.00 LAKHS

Submitted To:
The Executive Engineer,
Byatarayanapura Division,
B.B.M.P, Bangalore.

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Chapter -1
INTRODUCTION

Chapter -1

INTRODUCTION

1.1.1 General

Bengaluru is the capital of India's southern Karnataka state. The center of India's high-tech industry, the city is also known for its parks. It is also known as the Garden City because of its many beautiful gardens and parks. By Cubbon Park, Vidhana Soudha is a Neo-Dravidian legislative building. Former royal residences include 19th-century Bangalore Palace, modeled after England's Windsor Castle, and Tipu Sultan's Summer Palace, an 18th-century teak structure.During the last couple of decades, city has witnessed drastic increase in population, change in land use pattern of the city, life style of the people and their commuting habits and the revolutionary changes that has taken place in the automobile industry. This has contributed to the growth of vehicular traffic in an enormous way.

1.1.2 City Background

It also called the Silicon Valley of India , because of the high concentration of IT industry. Bangalore is rated to one of the fastest growing cities in Asia with a current population of more than 10 million. During the last couple of decades, city has witnessed drastic increase in population, change in land use pattern of the city, life style of the people and their commuting habits and the revolutionary changes that has taken place in the automobile industry.

1.1.3 Population

The Bangalore city population is currently more than 12.5 million and increasing in a forward march. The lifestyle of the citizens is changing day to day due to globalization and introducing of new brands in all sector. Bangalore, the fastest growing city of India, comprises of a dynamic blend of people, belonging to various religions, castes and communities. With the introduction of information technology in the city, it has assumed an international character. IT professionals not only from the various parts of India, but also that of the world, are migrating to the city. This has led to Bangalore becoming more like the melting pot of various cultures. Read on to know more about the people and lifestyle of Bengalooru, India.

1.1.4 Traffic growth

What adds to the traffic pressure in Bengaluru in particular is that there is very little scope for expansion of roads and the need to use existing roads for smooth movement of vehicles is even more pronounced. It thus becomes mandatory for the administration to ensure better parking facilities. So far, the government and the BBMP have not taken this issue seriously

and now the situation is such that it needs to be addressed seriously and effectively. Rapid population growth because of IT and other associated industries in Bengaluru led to an increase in the vehicular population to about 1.5 million, with an annual growth rate of 7-10%. With the increase in population and the expansion of the city, the problem of connectivity of the populace has arisen. Quite obviously personalized modes of transport have grown at a tremendous rate and two wheelers along with the cars almost comprise 90% of the total registered vehicular population in the city.
Two wheelers constitute more than 70% of the total volume, while cars comprise 15%, autos 4% and the remaining 8% includes other vehicles such as buses, vans and tempos.

Project Location

The Project includes **Package-03**. The Project area is in Byatarayanapura Assembly constituency, Bangalore. The Project stretch includes main roads and cross roads of Ward 7, 8 & 10. By considering the above reasons following roads are taken up for Development with Asphalting depending upon the site scenario.

Key Map of the roads proposed is enclosed in **Annexure A.1.1.**

M/s. SILICON CONSULTING ENGINEERS is entrusted by BBMP to carry out the work of Preparation of Detailed Estimate and Report for the above said work.

Accordingly we **M/s. SILICON CONSULTING ENGINEERS** have commenced the consultancy works as per the scope of services described in the RFP document.

1.2 Scope of Work

The Scope of Services of the Consultancy includes the following:
Inventory and condition surveys for alignment.

- Engineering surveys and investigations
- Improvement to the existing pavement and drains, such as horizontal and vertical alignment, curve straightening, rising of the road level in low lying areas above the HFLs, concentric widening / eccentric widening etc.
- Design of Pavement.
- Design of lateral side drains and Cross drainage works such as culverts etc
- Rate analysis of scheduled items, BOQ and Cost estimates.
- Final Detailed Project Report and final drawings
- Photos of the project roads

1.2.1 Engineering surveys and investigations

The engineering surveys and investigations shall be divided into the following components:

- Topographic, alignment and land use survey
- Inventory survey
- Bridge condition survey
- Soil, geo-technical, material, hydrology and drainage surveys

1.2.1.1 Topographic, alignment and land use survey

The activities and Deliverables forming part of the topographic, alignment and land use survey are described below:

(a) Divide the Project Highway into various stretches as per terrain classification.

(b) Identify sections of Project Highway which require raising. Such sections will be identified with attention being paid to the previous history of submergence and the extent to which the sub grade is likely to be affected by the capillary action if the section is not raised.

(c) As far as possible, the existing alignment would be retained subject to the following requirements:

(d) Identify stretches where the gradients are steeper than the ruling gradient for the relevant terrain condition. Work out and prepare an improvement plan for the vertical alignment in such stretches.

(e) Identify stretches involving construction of new bridges and other structures including those requiring reconstruction and their approaches. Work out proposal for location of such structures and alignment of approaches.

(f) Based on the improvement plans of horizontal and vertical alignment worked out as a result of tasks in prepare alignment plans, cross-sections of the entire Project Highway.

(g) A set of cross-sections of the existing road at equal intervals for each section shall be provided by the Consultant. These cross-sections along with proposed improvement plan and preliminary design shall form the basis of preparation of indicative BOQ for the Project Highway.

1.2.1.2 Road inventory survey

(a) An inventory of road, culverts, bridges and other structures like railway over/under bridges, flyovers (grade separated structures), underpasses and overpasses.

(b) Identification of stretches of the Project Highway which -

(i) are affected by frequent flooding;

(ii) are subjected to water logging;

(iii) pass through black cotton soil area;

(iv) pass through marshy area; or

(v) pass through weak soil stratum

(c) Identification of sections in cutting.

(d) Identification of culverts requiring:

(i) Reconstruction (all culverts which are structurally distressed shall be reconstructed as new structures).

(ii) Widening (all existing culverts which are not to be reconstructed shall be widened equal to the roadway width).

(iii) Repairs and/or rehabilitation along with preliminary proposals.

(iv) New construction

1.2.1.3 Road condition survey

The Consultant shall undertake a survey of the visual condition of the pavement and shoulders of the Project Highway. The Consultant should also report if distresses are observed in the pavement and shoulders. It will also identify sections requiring reconstruction.

1.2.1.4 Structure condition survey

(a) The Consultant shall carry out a detailed inspection of every structure

(b) For each structure, the Consultant shall indicate the distresses observed, if any, in respect of various components of the structures. On the basis of the distresses observed, the Consultant shall divide the structures into the following categories:

(i) structures requiring reconstruction immediately as part of first stage development (all such structures shall be provided as new structures);

(ii) structures where distresses are not so severe and reconstruction can be postponed to a subsequent stage say for a period of 7 to 8 years; if any major repairs are required in the meantime, these shall be so indicated for each such location;

(iii) Structures requiring repairs and/or rehabilitation (for such structures indicate preliminary proposals for repairs and/or rehabilitation);

(iv) Structures requiring widening (for such structures indicate widening methodology); and

(v) Structures that shall be retained.

1.2.1.5 Soil, geotechnical, hydrology and drainage surveys

(a) The characteristics of the existing soil of the Project Highway.

(b) The determination of sub grade CBR (soaked) of the Project.

(c) Benkleman Beam Deflection measurements on the Project Highway.

(d) Preliminary hydraulic data for structures, design discharge, HFL, LWL, etc. with a view to checking adequacy of existing waterway.

(f) A broad assessment of the drainage condition and requirement of the Project Highway.

1.2.1.6 Road signs, safety devices

(a) The Consultant shall propose provision of Road Signs, Pavement Markings, Safety Barriers, Railings, Delineators.

(b) The Consultant shall propose overhead signs on the Project Highway and provide an outline of the same giving size and location.

1.3 Project cost

The Consultant shall work out indicative BOQ of various components and prepare cost estimates of the Project Highway with a break up of cost for each component separately.

1.4 Organisation of Detailed Project Report

The Methodology, as detailed in the Project proposal, it has been followed for carrying out the necessary Investigations and for the Preparation of Detailed Estimate and Report.

This Report includes the following.

- Chapter 2: Investigation & Surveys
- Chapter 3: Reconnaisance survey
- Chapter 4: Design Standard & Specification
- Chapter 5: Design & Proposals
- Chapter 6: Technical Report
- Chapter 7: Project Cost Estimates

Chapter -2
INVESTIGATION & SURVEYS

Chapter -2
ENGINEERING SURVEYS AND INVESTIGATIONS

2.1 General

Various surveys and investigations that are the essential inputs for detailed engineering design are detailed in this chapter. All the relevant maps / data / details available with the concerned departments have been collected, compiled and reviewed. Particular attention has been given to past / historical data / reports. A review of the past data available in the various studies has been listed out and such available data has been made use of, after updating / augmenting the data wherever necessary. The data as collected has been made use of in analysis, design, formulation of improvement proposals and costing. The activities have been performed on several fronts fully complying with the requirements. The activities that are carried out are brought out hereunder.

The various engineering surveys / investigations of the road sections include:

- Reconnaissance Survey.
- Visual Topographical Survey.
- Road Inventory Survey.
- Pavement Condition Survey.
- Visual Condition Survey.
- Bridge condition survey
- Soil, geo-technical, material, hydrology and drainage surveys

2.2 Reconnaissance Survey

Reconnaissance Survey of the road, considered for improvements, has been carried out to identify the general condition of roads, drains, culverts and bridges for further surveys / investigations, to understand kind of establishments along the stretches of roads and to work out land acquisition scheme. Making use of the observations / data collected during reconnaissance survey, detailed schedule for surveys / investigations required for the project has been finalized.

2.3 Visual Topographical Survey

Topographic Survey has been conducted all along the corridor by physically measuring the Road Width, Footpath Width, Drain Width, Alignment of Road and with the aid of Google Maps.

2.4 Road Inventory Survey

A detailed inventory and condition survey of road sections has been carried out by making use of well structured inventory data format. It was compiled in tabular form, developed using Excel computer software. Various data collected during the road inventory broadly include.

- Type of terrain.
- Land use.
- Carriageway width.
- Type of surfacing.
- Shoulder, Median, Drain (tertiary / shoulder), Footpath - type and width.
- Road Geometry.
- Road Furniture.
- Illumination.
- Salient Buildings & Structures.
- Road Intersection(s) and their details.
- Land width (RoW).
- Culverts, bridges and other structures (type, size, span arrangement and location).
- General drainage conditions.

2.5 Pavement Condition Survey

The Pavement Condition Survey has been carried out in accordance with IRC Guidelines. All surveys and investigations have been carried out with the following objectives:

- To have an up to date record of road assets.
- To have a clear understanding of road side features including land use, drainage characteristics, etc. and
- To assess the condition and strength data for developing improvement proposals and related designs.

2.5.1 Visual Condition Survey

Visual Condition Survey of the road sections has been carried out by travelling along the patching, rutting, pot holes, edge breaking, etc. by visual observations in a well structured data format. The data so collected has been compiled and presented (kilometer wise) in the form of tables for easy understanding. This data has been used to assess the pavement condition.

2.5.2 Soil, geotechnical, material, hydrology and drainage surveys

(i) The activities and Deliverables forming part of the soil, geotechnical, material, hydrology and drainage surveys are described below:

(a) The characteristics of the existing soil of the Project road.

(b) The determination of sub grade CBR (soaked) Project road.

(c) Benkelman Beam Deflection measurements on the Project road for overlay stretches.

(d) Preliminary hydraulic data for bridges, design discharge, HFL, LWL, etc. with a view to checking adequacy of existing waterway.

(e) A broad assessment of the drainage condition and requirement of the Project Highway.

(ii) Road signs, safety devices

(a) The provision of Road Signs, Pavement Markings, Safety Barriers, Railings, Delineators, Chevron Markings, Traffic Attenuators. It shall also include Crash Barriers for existing bridges.

(b) Overhead signs on the Project road and provide an outline of the same giving size and location.

Chapter - 3
RECONNAISSANCE SURVEY

Chapter -3
RECONNAISSANCE SURVEY

3.1 General

The Reconnaissance survey is an extensive study of an entire area that might be used for a road or airfield. Its purpose is to eliminate those routes or sites which are impractical or unfeasible and to identify the more promising routes or sites. Existing maps and aerial photographs may be of great help.. The activities that are carried out are brought out hereunder.

The various engineering surveys / investigations of the road sections include:

- Study of topographical survey sheets, agricultural, soil, geological and meteorological maps and aerial photography.
- Aerial photography wherever necessary and feasible, and
- Ground reconnaissance including another round of serial reconnaissance for inaccessible and difficult stretches, where required.

Reconnaissance survey starts with a study of the all available maps. After study of the topographical features on the maps, a number of economical alignments feasible in a general way are selected keeping in view the following points:

(i) The alignment to take into account all the control points and to be shortened and more economical compatible with requirements of gradients and curvature.

(ii) Shape of the alignment.

(iii) Avoidance as far as possible of marshy ground, steep terrains, unstable hill features and areas subject to severe climatic conditions, flooding and inundation.

(iv) Need of connecting important villages and towns.

(v) Bridging problems, and

(vi) Need to preserve environment and maintain ecological balance.

3.2 Ground Reconnaissance Survey:

Ground reconnaissance consists of general examination of ground by walking or riding along the probable routes and collecting all available information necessary for evaluating the same. In the case of hill sections, it may be advantageous sometime to start the reconnaissance from an obligatory point situated close to the top. If an area is inaccessible for the purpose of ground reconnaissance, aerial method should be used to clear the doubts.

Chapter - 4
DESIGN STANDARD & SPECIFICATION

Chapter -4
DESIGN STANDARD & SPECIFICATION

4.1 General

Planning and design of roads & CD structures, pedestrian facilities and street furniture are essentially based on the IRC standards and MoRT&H specifications. Whenever, the codes / standards are silent on some of the aspects, the same has been planned / designed based on sound engineering practices. Design standards relevant to the project road along with the broad list of design parameters and the relevant IRC codes / specifications have been detailed in **Table 4.1.**

Table 4.1: Design Standards

SL No.	Design Parameters	Reference Code
1.	Geometric Design Standards • Carriageway width • Shoulder • Footpath • Median • Camber • Super Elevation • Horizontal Alignment • Vertical Alignment	As per IRC: 38 - 1988, IRC: 86 - 1983 & IRC: SP : 23 – 1993
2.	Road Furniture • Road Delineators • Road Markings • Road Signs	 As per IRC: 79 – 1981 As per IRC: 35 – 1997 As per IRC: 67 – 2001
3.	Road Capacity	As per IRC: 106 – 1990
4.	Pavement Design	As per IRC: 37 – 2018 & IRC: SP 62 - 2014
5.	Overlay Design	As per IRC: 81 – 1997
6.	Road Drainage	As per IRC: SP: 42 - 1994 & IRC: SP: 50 - 1999
7.	Culverts	As per relevant IRC codes and MoRT&H

The project road section passes through plain terrain. Design standards (as appropriate) have been further elaborated under the following heads:

- ❖ Geometric Design
- ❖ Pavement Design
- ❖ Drainage
- ❖ Road Furniture and Appurtenances
- ❖ Bridges and CD Structures

4.2 Design Standards Related to Geometric Design

Design standards related to road geometric along with the suggested design values / standards and recommended values based on site conditions and data analysis are detailed in **Table 4.2**.

Table 4.2: Geometric Design Standards

SL No.	Design Parameters	Design Values
1.	Design Speed	Design speed Considered is 40 kmph.
2.	Geometric Design Standards	
	• Carriageway Width	Two lane carriageway
	• Camber (Bi-directional)	2.5% for paved carriageway.
	• Super Elevation	Limited to 4%.
	• Footpath	Minimum width - 1.5m
	• Extra Widening at Curves	Nil for Radius above 300 m
	• Gradient	Maximum Gradient - 4.0 % (1 in 25) Minimum Gradient for Drainage - 0.5 % (desirable minimum) & 0.3 % (absolute minimum).

4.3 Design Standards Related to Pavement Design

Design standards related to Flexible Pavement design are essentially based on the guidelines given in IRC: 37 - 2018 "Guidelines for the Design of Flexible Pavements " and IRC SP 62-2004 "Guidelines for the Design and Construction of Cement Concrete Pavements for Rural Roads". The suggested design values / standards and recommended values based on site conditions and data analysis are detailed in **Table 4.3** and are adapted in the design.

Table 4.3: Design Standards

SL No.	Design Parameters	Reference Code / Design Values
1.	Flexible Pavement design	IRC: 37 - 2018 " Guidelines for the Design of Flexible Pavements "
	Initial Traffic	In terms of CVPD, vehicles weighing more than 3 ton
	Traffic growth rate	5%
	Design Life	10 to 15 years
	Vehicle damage factor	1.5 to 4.5
2.	Soil Characteristics	CBR Value
3.	Rigid Pavement design	IRC SP: 62 – 2014 "Guidelines for the Design and Construction of Cement Concrete Pavements for low Volume Roads"

4.4 Design Standards Related to Overlay Design

Design standards related to Overlay design are essentially based on the guidelines given in IRC: 81 - 1997 "Guidelines for Strengthening of Flexible Road Pavements Using Benkelman Beam Deflection Technique". The suggested design values / standards and recommended values based on site conditions and data analysis are detailed in **Table 4.4** and are adapted in the design.

Table 4.4: Overlay Design Standards

SL No.	Design Parameters	Reference Code / Design Values
1.	Overlay Design	IRC: 81 - 1997 "Guidelines for Strengthening of Flexible Road Pavements Using Benkelman Beam Deflection Technique"
	• Design Life	10 years
	• Correction Factors	Temperature Correction Factor. Correction for Seasonal Variation (inclusive of correction for moisture content, soil type and rainfall)
	• Minimum Thickness	From structural considerations recommended minimum bituminous overlay thickness is 40 mm AC (minimum) or 50mm BM (as required) + 40mm BC
2.	Wearing Course Material (Options)	Bituminous Concrete with Crumb Rubber Modified Bitumen / Plastic Waste.

4.5 Design Standards Related to Road Drainage

Drainage of water from pavement surface is of paramount importance as far as preserving the road assets created by investing huge funds in addition to maintaining the structural soundness and functional efficiency of the road. Design standards related to road drainage are essentially based on the guidelines given in IRC: SP: 42 — 1994 "Guidelines on Road Drainage" and in IRC: SP: 50 - 1999 "Guidelines on Urban Drainage". The suggested design values / standards are detailed in **Table 4.5.**

Table 4.5: Design Standards Related to RoadDrainage

SI No.	Design Parameters	Design Values
1.	• Camber	1.7 - 2.5 % (bi - directional) for carriageway (camber of 3% is adopted).
	• Longitudinal Gradient	Minimum 0.3 - 0.5% for satisfactory drainage
	• Drain Type	Cast in situ RCC box drain with Precast RCC cover slab. RCC box culverts across cross roads.
	• For Existing Drains	Desilting and Rectification of Damaged Portion

4.6 Design Standards Related to Road Furniture and Appurtenances

Utility and importance of the road are greatly enhanced by installing road furniture and appurtenances at appropriate locations along the project road, which ensures improved road safety. Planning and design of road furniture and appurtenances are as per the guidelines stipulated in IRC. Detailing of each of these components has been done so as to integrate the same with the road improvement scheme. The suggested design values / standards are detailed in **Table 4.6.**

Table 4.6: Design Standards Related to Road Furniture and Appurtenances

SL No.	Design Parameters	Reference Code / Design Values
1.	Road Markings	IRC: 35 - 1997 "Code of Practice for Road Markings".
2.	Road Signs	IRC: 67 - 2001 "Code of Practice for Road Signs".
3.	Road Delineators	IRC: 79 - 1981 "Recommended Practice for Road Delineators".
4.	Pedestrian Facilities	IRC: 103 - 1988 "Guidelines for Pedestrian Facilities".

In addition to the above measures various other integral road components have been planned so as to achieve the maximum and optimal use of the carriageway with no / least interference to traffic flow at the same time ensuring adequate facilities to other road users especially pedestrians. All the encroachments, if any shall be cleared within the RoW.

4.7 Design Standards Related to Bridges and CD Structures

The design standards and loading considered for culverts and bridges are as stipulated in latest IRC codes / Special publications supplemented by appropriate MOST circulars and/or IS codes. The unsafe and/or deficient bridge and culvert structures (existing) will be rehabilitated or replaced by sound structures.

4.8 Layer standards and specification

4.8.1 Granular Sub Base

This work shall consist of laying and compacting well-graded material on prepared Subgrade in accordance with the requirements of these Specifications. The material shall be laid in one or more layers as sub-base or lower sub-base and upper sub-base (termed as sub-base hereinafter) as necessary according to lines, grades and cross-sections shown on the drawings or as directed by the Engineer.

Materials

The material to be used for the work shall be natural sand, crushed gravel, crushed stone, crushed slag, or combination thereof depending upon the grading required. Use of materials like brick metal, Kankar and crushed concrete shall be permitted in the lower sub-base. The material

shall be free from organic or other deleterious constituents and shall conform to the gradings given in Table 400-1 and physical requirements given in Table 400-2. Gradings III and IV shall preferably be used in lower sub-base. Gradings V and VI shall be used as a sub-base-cum-drainage layer. The grading to be adopted for a project shall be as specified in the Contract. Where the sub-base is laid in two layers as upper sub-base and lower sub-base, the thickness of each layer shall not be less than 150 mm. If the water absorption of the aggregates determined as per IS:2386 (Part 3) is greater than 2 percent, the aggregates shall be tested for Wet Aggregate Impact Value (AIV) (IS:5640). Soft aggregates like Kankar, brick ballast and laterite shall also be tested for Wet AIV (IS:5640).

4.8.2 Wet Mix Macadam

Wet mix macadam construction is an improvement over the conventional water bound macadam providing speedy and more durable construction. It differs from the water bound macadam in that graded aggregates and granular materials are mixed with predetermined quantity of water in accordance with the specifications to form dense mass which is spread and wiled to approved lines, grades and cross-section to serve as pavement course(s).

Providing laying, spreading and compacting graded stone aggregate to wet mix macadam specifications including premixing the materials with water at OMC, in mechanical mix plant carriage of mix material by tipper to site, laying in uniform layer with paver in sub base/base course on well prepared surface and compacting with vibratory roller to achieve desired density as per relevant MoRTH clause 406

Materials Requirement

1) P.I. value of Materials finer than the 425 micron sieve should be less than 6.

2) The mix should be prepared in approved mixing plant of suitable capacity having provision for controlled addition of water and forced/positive mixing arrangement, like, pug mill or pan type mixes of concrete batch/plant.

3) The mixed material should be uniformly wet and no segregation should be permitted.

4) The mix should be spread uniformly and evenly in required quantities on the prepared sub grade/sub-base either by a ~elf-propelled paver finisher or a motor grader fitted with blades having hydraulic control suitable for initial adjustment and maintaining the same. In no case should the mix be dumped in heaps on the area.

5) The thickness of single compacted wet mix macadam layer should not be less than 75 mm nor more than 100 mm. However, the compacted thickness of single layer of the sub-base may be increased up to 200 mm provided vibratory roller of approved type is used for compaction. The roller speed should not exceed 5 Km / hour.

6) Rolling should continue till density achieved is at least 98 per cent maximum dry density as per IS: 2720 (Part VIII).

7) When surface irregularity of wet mix macadam exceeds permissible tolerance or where the course

is otherwise defective (like, sub grade soil getting mixed with the aggregates), the full thickness of the layer should be scarified over the affected area, reshaped with added premixed material as applicable and re-compacted. The area treated in this manner should not be less than 5 m long and 2 m wide.

8) It is not advisable to lay the wet mix macadam during rains and the tempo of work suffers during rains.

9) After construction of the top WMM layer will need immediate sealing with bituminous surfacing.

10) Provision of adequate drainage for the foundation area for the construction courses assumes greater importance in this method of construction.

4.8.3 Dense Graded Bituminous Macadam

1) The binder for tack coat should be a bituminous emulsion complying with IS: 8887 or cut-back as per IS: 217, to be used restrictively for site at sub-zero temperature or for emergency application.

2) The binder should be applied uniformly with bitumen pressure sprayer capable of spraying bitumen at specified rate and temperature to provide a uniform unbroken spread of bitumen.

3) No more than the necessary tack coat for the day's operation should be placed.

4) The succeeding construction should be made only after curing of the tack coat.

5) For Bituminous Macadam, the bitumen content for premix should be 3 to 3.5 per cent by weight of total mix except otherwise directed.

6) Job mix formula for Dense Graded Bituminous shall comply with Clause 507.3 of the Ministry's Specifications and should be design in lab or other agency and should get approval from PMU before implementation.

7) The construction operation for Dense Graded Bituminous Macadam including lying of and stress absorbing layer should be in accordance with Clause 507.4 of the Ministry's Specifications.

8) For more detail refer Ministry's specification clause no. 504 for Bituminous Macadam & clause no. 507 for Dense Graded Bituminous Macadam.

4.8.4 Bituminous Concrete

1) The work consists of construction, in a single or multiple layers of bituminous concrete prepared as per specified job mixed formula, on previously prepared bituminous base. A single layer shall be 25 mm to 50 mm in thickness.

2) The mix design and construction operations of BC should be confirm to clause 512.3 of Ministry's specifications and should be design in lab or other agency and should get approval from PMU before implementation

3) The fine aggregate shall be the fraction passing the 2.36 mm and retained on the 0.075 mm sieve consisting of crusher run screening, natural sand or mixture of both. These shall be clean, hard,

durable, uncoated, dry and free from soft or flaky pieces and organic or other deleterious substances.

Composition of bituminous concrete pavement layers

S.No.	Grade of Mix	Grading I	Grading 2
	Nominal aggregate size	19 mm	13 mm
	Layer thickness	50- 65 mm	30 – 45 mm
	IS Sieve <mm	Cumulative % by weight of total aggregate passing	
1.	26.5 mm	100	
2.	19 mm	79 -100	100
3.	13.2 mm	59 - 79	79 -100
4.	9.5 mm	52 - 72	70 - 88
5.	4.75 mm	35 - 55	53 - 71
6.	2.36 mm	28 - 44	42 - 58
7.	1.18 mm	20 - 34	34 - 48
8.	0.60 mm	15 - 27	26 - 38
9.	0.3 mm	10 - 20	18 - 28
10.	0.15 mm	5 - 13	12 - 20
11.	0.075 mm	2 - 8	4 - 10
Bitumen content, % by weight of total mixture[1]		**Min. 5.0 – 6.00 %**	**Min. 5.00 – 7.00 %**
Bitumen grade		65*	65*

Marshall Properties Requirements for bituminous concrete layers

S.No.	Requirement of property of mix from Marshall sample	Standard
1.	Minimum stability (kN at 60°C)	9.00
2.	Minimum flow (mm)	2
3.	Maximum flow (mm)	4
4.	Compaction level (Number of blows)	75 blows on each of the two faces of the specimen
5.	Per cent air voids	3 -6
6.	Per cent voids in mineral aggregate (VMA)	See table 9.28 below
7.	Per cent voids filled with bitumen (VFB)	65 -75
8.	Loss of stability on immersion in water at 60 C (ASTM-D-1075)	Min. 75 % retained strength

4.8.5 Dry lean concrete sub-base

1) Ordinary Portland or Portland slag or Portland puzzolana cement conforming to 15:269 IS: 455 and IS: 1489 respectively may be used. If the sub-grade contains soluble sulphate in excess of 0.5 per cent cement used shall be sulphate resistant and shall conform to IS: 6909.

2) Coarse and fine aggregates shall conform to IS: 383. If required coarse aggregate should be

washed and drained. Fine aggregate should be free from soft particles, clay, lignite, shale, loam cemented particles, mica, organic and other foreign matter.

3) Maximum size of aggregate shall be 26.5.

4) Water used for mixing and curing of concrete shall be free from injurious amounts of oil, salt, acid, vegetable matter or other substances harmful to the finished concrete. It should meet the requirements stipulated in IS:456.

5) The mix should have a maximum aggregate cement ratio of 15:1. Optimum moisture content should be determined by trial and construction should be carried out with water content between the optimum and optimum + 2 Per cent.

6) Minimum cement content shall not be less than 150 kg/cu.m of concrete.A trial length, outside main work, having a minimum length of 60 m and full width of pavement and containing at least. One transverse construction joint should be constructed to determine the optimum moisture content, density, and strength of lean concrete.

7) The concrete work should not be carried out if concrete temperature is greater than 300C. If required chilled water or ice flakes should be used.. The work should also not be carried out in adverse conditions, like, high temperature low relative humidity excessive wind velocity imminence of rain or concrete temperature below 50 C.

8) The sub-grade should be finished to proper lines grades and cross-sections. It should not be softened by rain after preparation. For areas with plastic soils, like, BC soil, the soil should be prepared with about 2 per cent of lime. The sub-grade should be given a fine spray of water and rolled one day before laying the lean concrete.

9) Batching and mixing .should preferably be carried out in a force action central batching and mixing plant. The average compressive strength of the lean concreteshould not be less than 10 MPa at seven days. In addition, the minimum compressive strength of any individual cube should not be less than 7.5 Mpa at seven days.

10) The concrete should, be transported by tipping trucks ensuring that no segregation takes place. Some practical measures for reducing segregation are listed below: i) The maximum size of the aggregates should be restricted to 25 mm. ii) While stockpiling aggregates the height of layer should be restricted to 1-2 meters and each layer should be spread horizontally. iii) Dumpers should be moved back and forth to stagger heaps. iv) Use of down-pipe from conveyor belt to dumper in reducing segregation may be considered, where applicable. v) If a paver is employed, it should be operated at moderate speed. At higher speeds, coarser fraction tends to move towards edges.

11) Concrete should be spread over the full width preferably with a paver with electronic sensors. The minimum dry density shall be 97 per cent of that achieved during the trial length construction as described below. The density achieved at 0.5 m from the edge should not be less than 95 per cent of that achieved during trial construction.

12) The time between mixing of the first batch of concrete and final finishing time should not exceed

90 minutes when the concrete temperature is between 250 C and 300 C and 120 minutes when the concrete temperature is less than 250 C. This period may be reviewed in the light of results of the trial run.

13) Mixing and placing of concrete shall progress only at such rate as to permit proper finishing, protecting and curing of the pavement.

14) 80 to 100 kN static weight are suitable for rolling dry lean concrete. In addition, to the number of passes required for compaction there should be a preliminary pass without vibration for bedding and a final pass without vibration to remove roller marks. Special care should be exercised during compaction near joints, kerbs, channels, side forms, around gullies and manholes. If necessary plate vibrators may be used at these locations.

15) Immediately after the compaction, curing should commence either by spraying with liquid curing compound and covering with wet Hessian for three days, after the compound looses tackiness, or directly covering the surface with wet Hessian kept moist for seven days.

16) As far as possible transverse joints should be at right angles to the pavement edge. Also, the transverse joints should be provided in line with the joints in the slab of the adjoining lane.

17) Sufficient forms should be available to atleast 200 metres length at all times. This should be set to the required alignment in advance of paving operation for 200 meters length or anticipated length of pavement to be laid in next 24 hours, whichever is more.

18) A separation membrane should be provided between concrete slab and sub-base to obviate stresses developing at the interface as a result of temperature changes in the concrete slab. This should be 125 microns thick impermeable plastic Sheet laid flat without creases and nailed to the lower layer with concrete nails. The overlap in plastic sheet, where necessary, should be at least 300 mm.

4.8.6 Pavement Quality Concrete

1) Ordinary Portland cement of grades 33, 43 or 53 conforming respectively to IS: 269, IS: 8112 and IS: 12269 should be used. If the soil has soluble salts, like, sulphate in excess of 0.5 percent, the cement used shall be sulphate resistant and shat conform to IS: 12330.

2) Guidance regarding matching the strength of cement with the designed strength of concrete may be obtained from IS: SP: 23, "Handbook for concrete Mixes". Cement content should be between 350 and 425 kg/cum of concrete.

3) Admixtures conforming to IS: 6925 and IS: 9103 may be used to improve workability of concrete or extension of setting time. If air entrained admixture is used, the total quantity of air-in-air entrained concrete as a percentage of the volume of the mix should be 5+1.5 per cent. The aggregate should comply with provisions of IS: 383 and in addition, should have a Los Angeles. Abrasion test value less than 35 per cent, chloride in less than 0.06 per cent by weight, Sulphuric anhydride less than 0.25 per cent by weight, water absorption less than 2 per cent and a loss of less than 12 per cent in

soundness test with sodium sulphate 18 per cent for magnesium sulphate).

4) Fine aggregate and water should conform to the requirements already mentioned in para 3.9.1.

5) Mild steel dowels and tie bars should conform to the relevant requirements of IS:432, IS: l 139 and IS: 1786. The dowel bars should conform to grade S 240 and tie bars to grade S 415 of IS.

6) The concrete should be prepared after proper mix design using methods mentioned in IS: 1026 "Recommended Guidelines for Mix Design". Workability of the concrete should be established by slump test. A slump of 30+15 mm is considered reasonable.

7) Placing of concrete may be taken up in weather conditions already described in para 9.10.1. The concrete base may be constructed by fixed form paver, or a slip form paver. Only where such placing is not possible, construction should be taken up by hand guided methods.

8) After the placing of the slab and before the application of the curing membrane, the surface shall be brush textured-in accordance with the prescribed specifications.

9) In cases where side forms are used as soon as side forms are removed, edges of the slab shall be corrected wherever irregularities have occurred by using fine aggregate composition of one part of cement and three parts of chips.

Chapter - 5
DESIGN & PROPOSALS

Chapter -5
DESIGN & PROPOSALS

5.1 General

Improvement proposals for an existing road section essentially consist of two components, geometric and structural improvements. Geometric improvement deals with visible dimensions of roadway, probable road widening and is dictated by the traffic and economic considerations. Due to the inherent restrictions like limitation in land acquisition, limited right of way and existing utilities / services, etc. the horizontal and vertical alignments in general follow the existing geometry except in situations where improvements are possible. The geometric improvements mainly involve improvements to cross sectional elements such as carriageway, shoulders, etc. The structural component deals with the pavement and embankment design aspects, i.e., the ability of the roads to adequately carry and support the Vehicle / wheel loads over the design period. Safety, speed, efficiency, economy and comfort in traffic movement to a large extent are governed by adequacy of design standards used for a specific road facility.

The improvement proposals need to consider the method of widening like concentric or eccentric to the existing road which is dictated by site situations like available land for acquisition, curvature, existing utilities, terrain, places of worship, monuments, grave yards, places of importance etc.

This chapter deals with the analysis of data collected during various engineering surveys/investigations and the formulation of improvement proposals including planning and design.

5.2 Road Inventory and Physical Characteristics of Road Section

Investigations / studies have been carried out along the Project Stretch. Physical characteristics of these road and road Junctions are as follows.

Terrain along this section is generally plain. Width of Carriageway (Undivided Carriage Way) along the Road varies. The Road carries considerable vehicular traffic throughout the day especially during peak hours. Considerable pedestrian traffic is also present along the corridor.

5.3 Pavement Design

Pavement design forms an integral part of detailed engineering study. Performance of pavement is critical as the economical returns are directly dependent on its performance. This

chapter deals with the design methodology adopted for the construction, strengthening and rehabilitation of the existing carriageway and the also suggests the design approach for both flexible and rigid pavement for the new carriageway. This chapter also brings out the present condition of the project corridor, the pavement option study and suggests the best alternate design.

This Section describes the studies and investigation carried out on Traffic, existing pavement conditions, existing soil sub grade condition and existing embankment / Soil at OGL condition. New pavements are generally flexible, consisting of Granular Sub-base, Water Mix Macadam and wearing course in Bituminous Concrete. Rigid pavement life span is longer (often more than 30 years) and maintenance is supposed to be less than for flexible pavement.

5.4 Pavement Design Methodology

Pavement design methodology includes two basic functions namely; design of strengthening and Widening for existing pavement and design of new crust for new Pavement to be to be adopted shall be decided based on life cycle cost analysis as a part of pavement design methodology, Accordingly, the following Methodology has been adopted in Pavement design.

Step 1: Various Pavement investigations have been carried out on the project corridor to assess the adequacy of the existing pavement crust. These investigations include:

- Visual Pavement Condition
- Visual shoulder condition
- BBD measurements
- Sub grade investigations
- Investigations on existing soil / granular layers

Step 2: Detailed material investigations have been conducted in the projected influence area and strength characteristics and availability of construction material has been determined.

Step 3: For the purpose of designing the overlay, the project corridor has been divided into homogeneous sections based on deflection measurements using Cumulative standards approach. Design thickness of overlay has been estimated from IRC-81-1997 using estimated traffic level and characteristic deflection of particular homogeneous section. Estimated BM thickness is then adjusted to equivalent thickness of BC & DBM using conversion factors given in IRC 81-1997.

Step 4: Homogeneous sections for pavement design have been established and design traffic Loadings for each of them identified. Design of flexible pavement for new road has been carried out in accordance with guidelines of IRC-37-2018.

Step 5: Design of rigid pavement has been carried out as per IRC-58-2011 method.

Step 6: Design of flexible pavement for paved shoulders, service roads, and interchange ramps has been carried out in accordance with IRC 37-2018 guidelines.

5.5 Flexible Pavement Design

5.5.1 Design CBR

Existing soil sub grade samples were collected through Trial Pit excavations at Road and shoulder interface. The existing soil sub grade were tested as per IS 2720.

The equivalent CBR is obtained as per IRC 37-2018 Chart for 905 dependability is 10%. Hence the flexible pavement design has been carried out using the IRC code (IRC-37-2018). In this code, pavement designs have been extended to cover up to 150msa and design CBR strengths up to 15%. In order to compute the damage ratio, the allowable repetitions are calculated in terms of the fatigue and rutting. The pavement design was done as per IRC-37-2018 and IIT Pave software. It accepts layer thickness, loading and material characteristics as inputs and has provisions for entering various indigenous data such as rutting and fatigue coefficients, wheel spacing, tyre pressure etc. The analysis is based on the linear elastic, multilayer theory and the stresses and strains developed in various layers of the pavement are obtained.

It is the ratio of force per unit area required to penetrate a soil mass with standard circular piston at the rate of 1.25 mm/min. to that required for the corresponding penetration of a standard material. The California Bearing Ratio Test (CBR Test) is a penetration test developed by California State Highway Department (U.S.A.) for evaluating the bearing capacity of subgrade soil for design of flexible pavement.

Tests are carried out on natural or compacted soils in water soaked or un-soaked conditions and the results so obtained are compared with the curves of standard test to have an idea of the soil strength of the subgrade soil.

The IS Code used for CBR test of soil is IS 2720 part 16.

5.5.2 Design Life for Base and Sub-base Layers

The stage construction for first five years of pavement life is considered as an option. It would be appropriate to design the bottom non bituminous layers (base and sub-base) for axle loads expected in the 15 year design period the upper bituminous layers for axle loads expected at the end of 10 year design period. A 15-years design life has been considered for Base and Sub-base layers of flexible pavement.

5.5.3 Traffic Considerations

The base year traffic, traffic growth and the projected traffic for the design period for each category of vehicles have been arrived from the Traffic Studies. The commercial vehicle considered for the design are based on the vehicular projections considering the actual traffic, the traffic likely to be generated by future developments in the vicinity of the project road.

Further, based on the traffic studies the number of commercial vehicles has been adopted.

4.5.4 Traffic Loading

In accordance with the requirement of IRC: 37-2018, the traffic loading for the design period and design lane are to be assessed. Vehicles constituting the commercial vehicles are LCV, 2 Axles, 3 Axles and Multi Axles and Multi Axle Semi Articulated vehicles.

5.5.5 Design Approach and Criteria of Flexible pavement

Pavement distress resulting from repeated application of traffic;

- Horizontal tensile strain at the bottom of the bituminous layer
- Vertical compressive strain at the top of the Sub grade

5.5.6 Design Standards Related to Flexible Pavement Design

Design standards related to pavement design are essentially based on the guidelines given in IRC: 37-2018 – "Tentative Guidelines for Design of Flexible Pavements".

Table 5. 1 Flexible Pavement Design Standards

	Design Parameters	Reference Code / Design Values
1.	Pavement Design	IRC: 37-2018- "Guidelines for Design of Flexible Pavements"
	Traffic Growth Rate	Adopted as per IRC: 37-2018
	Design Life	Stage Construction: • 15 years for base and sub base • 8 years for bituminous layers
	Vehicle Damage Factor	Derived values based on Axle load survey. If these values are less than national average, then national average will be used.
	Lane Distribution Factor	As per IRC:37-2018
2.	Wearing Course Material (Options)	Bituminous Concrete with VG 30 (50 x 70 Grade)
3.	Mastic Asphalt	Near junctions, roundabouts and bus stops. Over major/minor bridges

5.5.7 Information required for estimating design traffic

- Initial traffic in terms of number of Commercial Vehicles per day (CVPD).
- Traffic growth rate during the design life in percentage.
- Design life in number of years.
- Spectrum of axle loads.
- Vehicle Damage Factor (VDF).

- Distribution of commercial traffic over the carriageway.

5.5.8 Computation of Design Traffic

The design traffic in terms of the cumulative number of standard axles to be carried during the design life of the road should be computed using the following equation:

$$N = \frac{365 * \left[(1+r)^n - 1\right]}{r} * A * D * F$$

Where,

N = Cumulative number of repetitions in terms of million standard axles

A = Initial traffic in the year of completion of construction in terms of the number of Commercial Vehicles per Day (CVPD).

D = Lane distribution factor (as explained in Para 4.5.1 (IRC: 37-2018)

F = Vehicle Damage Factor (VDF).

n = Design life in years.

r = Annual growth rate of commercial vehicles in decimal (e.g., for 5 per cent annual growth rate, r = 0.05).

Traffic Growth Rate

The present day traffic has to be projected for the end of design life at growth rates ('r') estimated by studying and analyzing the following data:

(i) The past trends of traffic growth; and

(ii) Demand elasticity of traffic with respect to macro-economic parameters (like GDP or SDP) and expected demand due to specific developments and land use changes likely to take place during design life.

If the data for the annual growth rate of commercial vehicles is not available or if it is less than 5 per cent, a growth rate of 5 per cent should be used.

The traffic in the year of completion is estimated using the following formula:

$$A=P\,(1+r)^n$$

Where,

P = Number of commercial vehicles as per last count.

n = Number of years between the last count and the year of completion of construction

5.5.9 Selection of Subgrade CBR for Pavement Design

The CBR values of the sub grade soil vary along a proposed alignment even on a homogeneous section. The pavement design is done based on Considering the CBR of Borrow area for

Reconstruction and Widening Section and For Existing portion the CBR of Existing Sub grade / Sub base is considered.

5.5.10 Flexible Pavement Design – Re-construction

The CBR values of the subgrade soil vary along a proposed alignment even on a homogeneous section. The pavement design is done based on Considering the CBR of Borrow area for Reconstruction and Widening Section and For Existing portion the CBR of Existing Subgrade/Sub base is taken,

5.5.11 Widening Proposals & Typical Cross Sections

a) Widening options for the project road were arrived based on,

- Lane requirements based on traffic capacity analysis.
- Requirement of service roads along built-up areas.
- Presence of religious structures.
- Availability of land

Formulation of carriageway widening schemes involves 1) estimation of extent of widening required in terms of additional lanes and 2) lateral arrangement of these additional lanes to the existing carriageway. Guidelines for the requirement of additional lanes is derived from, Traffic Study – Projected Traffic Volume vis-à-vis Capacity of each lane / road. Within the existing ROW as far as possible, and retaining the existing pavement, cross drainage structures and bridges as far as possible, without compromising the recommendations of IRC / MORT&H. Requirement of service roads along built-up areas. Additional lanes shall be added to the existing road either concentrically or eccentrically, depending on

1. The availability of right of way on either side of the existing centre line,
2. Topography and built-up areas
3. Due to specific field constraints (such as any sensitive features like water bodies, important structures etc.), localized shifting has been emerged at many places. However the actual widening will be finalized on the basis of field survey data, study of soil erosion and possibility of landslide and after completing the Environmental Assessment (EA) and Social Impact Assessments (SIA) of widening and Public Consultation.

b. Truck lay-bye and Bus bay pavement

In the case of rural areas, it is recommended to provide interlocked concrete block (M40) pavements for truck lay bye and Bus bays. An interlocked concrete block pavement resembles the structure of flexible pavement with an exception that in place of asphalt layers, cement concrete blocks are used with a levelling course of sand on top of the Base layer.

5.5.12 Design Standards Related to Rigid Pavement Design

Design standards related to pavement design are essentially based on the guidelines given in

IRC: SP 62 - 2014 – "GUIDELINES FOR DESIGN AND CONSTRUCTION OF CEMENT CONCRETE PAVEMENTS FOR LOW VOLUME ROADS".

IRC: 58 deals with design of concrete pavements for major roads carrying an average daily traffic exceeding **450 Commercial Vehicles Per Day** with laden weight exceeding **30 kN**. The guidelines contained in this document are applicable only to low volume roads with average daily traffic less than 450 Commercial Vehicles Per Day. The basic design concepts of IRC: 58 may be relevant for arriving at pavement thickness in some cases as mentioned in Clause 1.3. This document covers the design principles of rigid pavements of low volume roads 3.75 m wide (minimum 3 m wide in hills) made up of conventional concrete, roller compacted concrete and self-compacting concrete.

Table 5. 2 Rigid Pavement Design Standards

	Design Parameters	Reference Code / Design Values
1.	Pavement Design	IRC: SP 62 - 2014 – "Guidelines for design and Construction of Cement Concrete Pavements for low volume roads".
	Wheel Load	50 kN
	Tyre Pressure	0.8 MPa
	Design Period	20 years
	Traffic Growth Rate	5 %
	Design Traffic for Thickness Evaluation	For traffic less than 50 CVPD, only wheel load stresses for a load of 50 kN on dual wheel need be considered for thickness estimation since there is a low probability of maximum wheel load and highest temperature differential between the top and the bottom of the rigid pavement occurring at the same time. For traffic higher than 50 and less than 150 CVPD, thickness evaluation should be done on the basis of total stresses resulting from wheel load of 50 kN and temperature differential. For traffic exceeding 150 CVPD, fatigue can be a real problem and the guidelines consider thickness evaluation on the basis of fatigue fracture.

DESIGN OF SLAB THICKNESS

Concrete pavements are subjected to stresses due to a variety of factors and the conditions which induce the highest stress in the pavement should be considered for analysis. The factors commonly considered for design of pavement thickness are traffic loads and temperature gradients. The effects of moisture changes and shrinkage, being generally opposed to those of temperature and are of smaller magnitude, would ordinarily relieve the temperature effects to some extent and are not normally considered critical to thickness design.

For the purpose of analysis, two different regions in a pavement slab edge and corner are considered critical for pavement design. Effect of temperature gradient is very less at the corner, while it is much

higher at the edge. Concrete pavements undergo a daily cyclic change of temperature differentials, the top being hotter than the bottom during the day and opposite is the case during the night. The consequent tendency of the pavement slabs to curl upwards (top convex) during the day and downwards (top concave) during the night, and restraint offered to the curling by self-weight of the pavement induces stresses in the pavement, referred to commonly as curling stresses. These stresses are flexural in nature, being tensile, at bottom during the day, (Fig. 4.1) and at top during night (Fig. 4.2). As the restraint offered to curling at any section of the slab would be a function of weight of the slab, it is obvious that corners have very little of such restraint. Consequently the temperature stresses induced in the pavement are negligible in the corner region.

The corner tends to bend like a cantilever; giving rise to tension at the top while the tension is at bottom in case for edge loading. Deflections due to wheel loads are larger at the corner causing displacement of weaker subgrade resulting in loss of support under repeated loading and consequent corner breaking. A shorter transverse joint spacing imparts safety to a panel due to load sharing by the adjacent slabs because of better load transfer across the transverse joints since dowel bars are not recommended in low volume roads except near a permanent structure.

Wheel load stresses for interior loading are lower than those due the edge and corner loading. For low volume roads carrying a low volume of traffic, heavy vehicles are not frequent and the chance that highest axle load will act when the temperature gradient also is highest is likely to be of rare occurrence. The maximum tensile stresses in the edge region of the slab will be caused by simultaneous occurrence of wheel loads and temperature differentials. This would occur during the day at the bottom in case of interior and edge regions.

5.6 Proposed Improvements to Road Section

The proposals for the improvement of the geometric elements of the existing project road sections generally include:

a. Geometric Improvements

- Maintaining Uniform Carriageway.
- Improvements to cross sectional elements.

b. Strengthening of Existing Pavement

- Filling of potholes / damaged portion with WMM.
- Overlay for existing carriageway.
- Strengthening of Carriage way.

c. Road Drainage

- Desilting of Existing Side Drains.
- Rectification of damaged drains.
- Flagging Coarse for Existing Drain.
- Replacing damaged / Missing cover slabs.

- RCC Drains are constructed as per cast insitu method, because the area taken for improvement is developed area where the habitat is living and houses are built and connection of Electrical lines and water lines are taken for houses. The precast drain concept cannot be adopted for these areas as the houses are not built in uniform alignment and also the utilities provided to houses is not in depth. So the placing of precast drains in line and grade will be not possible. Hence Cast insitu drain is followed.

FLEXIBLE PAVEMENT DESIGN

DESIGN TRAFFIC:

The following equation is used to compute the design traffic in terms of the cumulative number of standard axles.

$$Ns = \frac{365 \times ((1+r)^{n} - 1)}{R} \times A \times D \times F$$

Where,

Ns = Cumulative number of standard axles to be catered for in the design, MSA.

A = Initial Traffic

r = Annual growth rate of commercial vehicles

n = Design life in years

F = Vehicle Damage Factor

D= Lane distribution factor

The design traffic computed in terms of cumulative number of standard axles (msa).

City roads should be designed for minimum 5 msa traffic. The CBR of soil is 7% CBR (As per IRC 37 – 2018).The composition of pavement layers from the above Detailed Design is shown in table below.

Pavement compositions

Recommended for Surface course of 2 MSA		Recommended Base course of 2 MSA	
BC	**DBM**	**WMM**	**GSB**
40	50	225	150

RIGID PAVEMENT DESIGN

RIGID PAVEMENT DESIGN:

A) The rigid pavement consists of cast in-situ/ premix concrete.

The slab design method is based on assessments of the:

- Predicted traffic volume and composition over the design period
- Strength of the subgrade in terms of its California Bearing Ratio
- Strength of the base concrete
- As the roads taken for development are slushy and having low CBR value, a layer of GSB is provided as Sub Base Course.

B) A bound of lean mix concrete sub-base is recommended under a concrete pavement for one or more of the following reasons:

- To resist erosion of the sub-base and limit 'pumping" at joints and slab edges.
- To provide uniform support under the pavement
- To reduce deflection at joints and enhance load transfer across joints (especially if no other load transfer devices are provided, such as dowels); and
- To assist in the control of shrinkage and swelling of high-volume-change subgrade soils

Table 3.1 Approximate k Value Corresponding to CBR Values

Soaked subgrade CBR	2	3	4	5	7	10	15	20	50
k Value (MPa/m)	21	28	35	42	48	50	62	69	140

Table 3.2 Effective k Values Over Granular and Cementitious Subbases

Soaked CBR	2	3	4	5	7	10	15	20	50
k Value over granular subbase (thickness 150 to 250 mm), MPa/m	25	34	42	50	58	60	74	83	170
k Value over 150 to 200 mm cementations sub base MPa/m	42	56	70	84	96	100	124	138	280

The composition of pavement layers from the above Detailed Design is shown in table below.

Pavement compositions

Recommended Layers, mm	
PQC	**Base Course**
150	150

Chapter - 6
TECHNICAL REPORT

Chapter -6
TECHNICAL REPORT

6.1 General

The project had the following technical and scientific objectives:

• To provide better performing, innovative pavement maintenance techniques and procedures that will reduce traffic disruption at the road works, in terms of congestion and improved safety;

• To develop an integrated cost-benefit analysis model that addresses key aspects of pavement maintenance, including road user costs;

• To produce safety strategies for road works that allow for arranging the work site lay-out and the timing of maintenance intervention in such a way that the safety of road users and road workers are optimised;

• To propose methods, procedures and equipment for monitoring the condition of road pavements at traffic speeds to minimise the number of disruptive road closures currently required for acquiring pavement condition data.

Chapter - 7
PROJECT COST ESTIMATES

7.1 Detailed Cost Estimate

Detailed cost Estimate has been worked out based on detailed engineering design

7.2 General

Cost Estimate is an important part of the Report as it provides vital input to financial evaluation of the project. The cost estimates have been prepared for Strengthening of the existing road including strengthening of longitudinal drains, road furniture, site clearance and Dismantling.

7.3 Basic rates

As part of Report, Rate Analysis of each of the item has been prepared by adopting PW, P & IWTD SR 2021 - 22, Bangalore Circle. The rates as given in PW, P & IWTD SR are to be enhanced by 10% for additional weightages for the works to be executed under extra ordinary conditions for Bangalore Metropolitan Limits. Items not covered in NHSR / PW, P & IWTD SR have been based on market rates.

7.4 Project Management and Quality Control

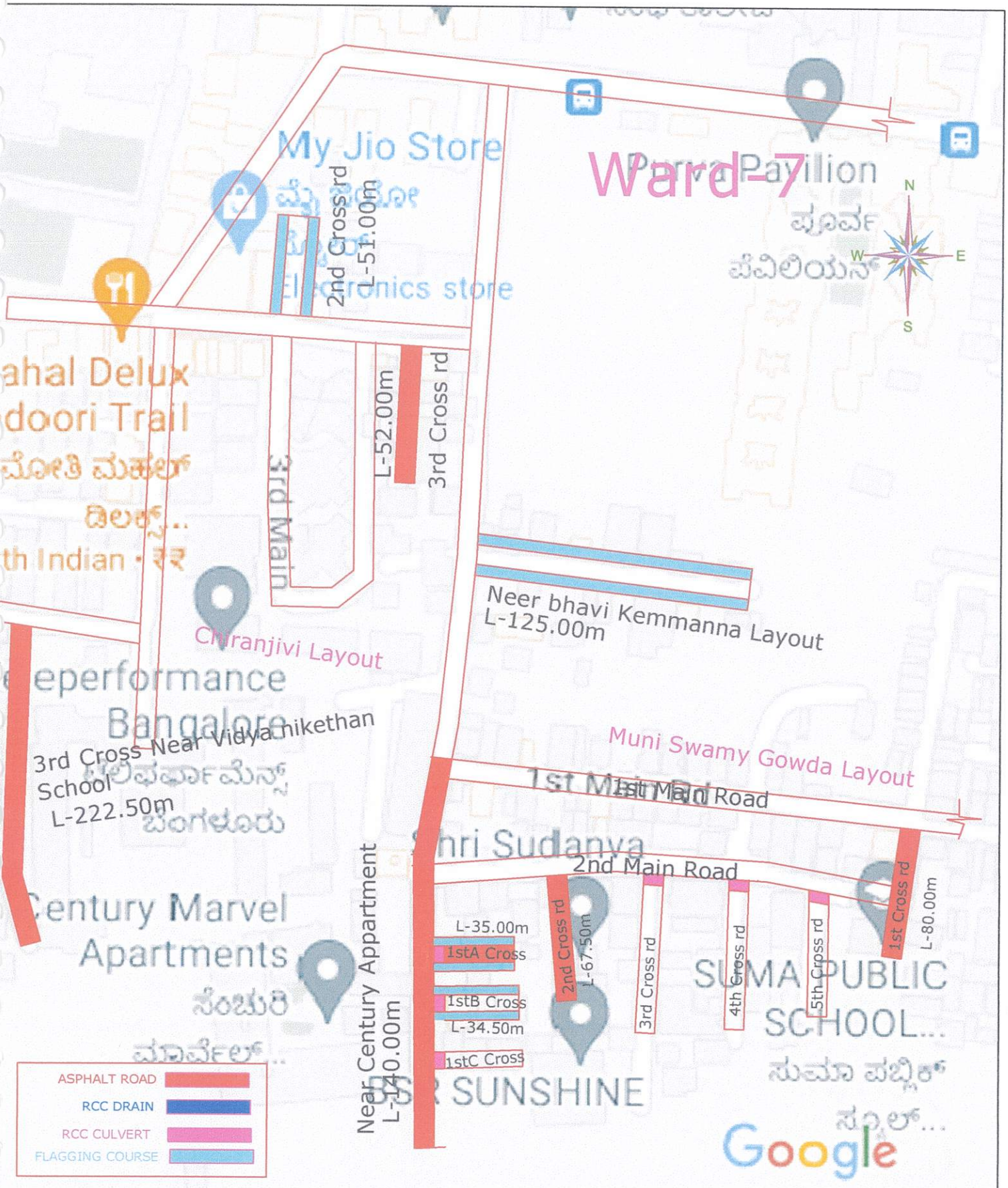
Provision of around 2.00% of Construction Cost has been made towards Cost of DPR Preparation, Quality Control, PMC and Proof Checking.

7.5 Project Cost

The total project cost for the proposed work is 1100.00 Lakh.

Detailed Cost Estimate is enclosed in **Annexure A. 7.1**

Annexure A. 1.1
KEY MAP



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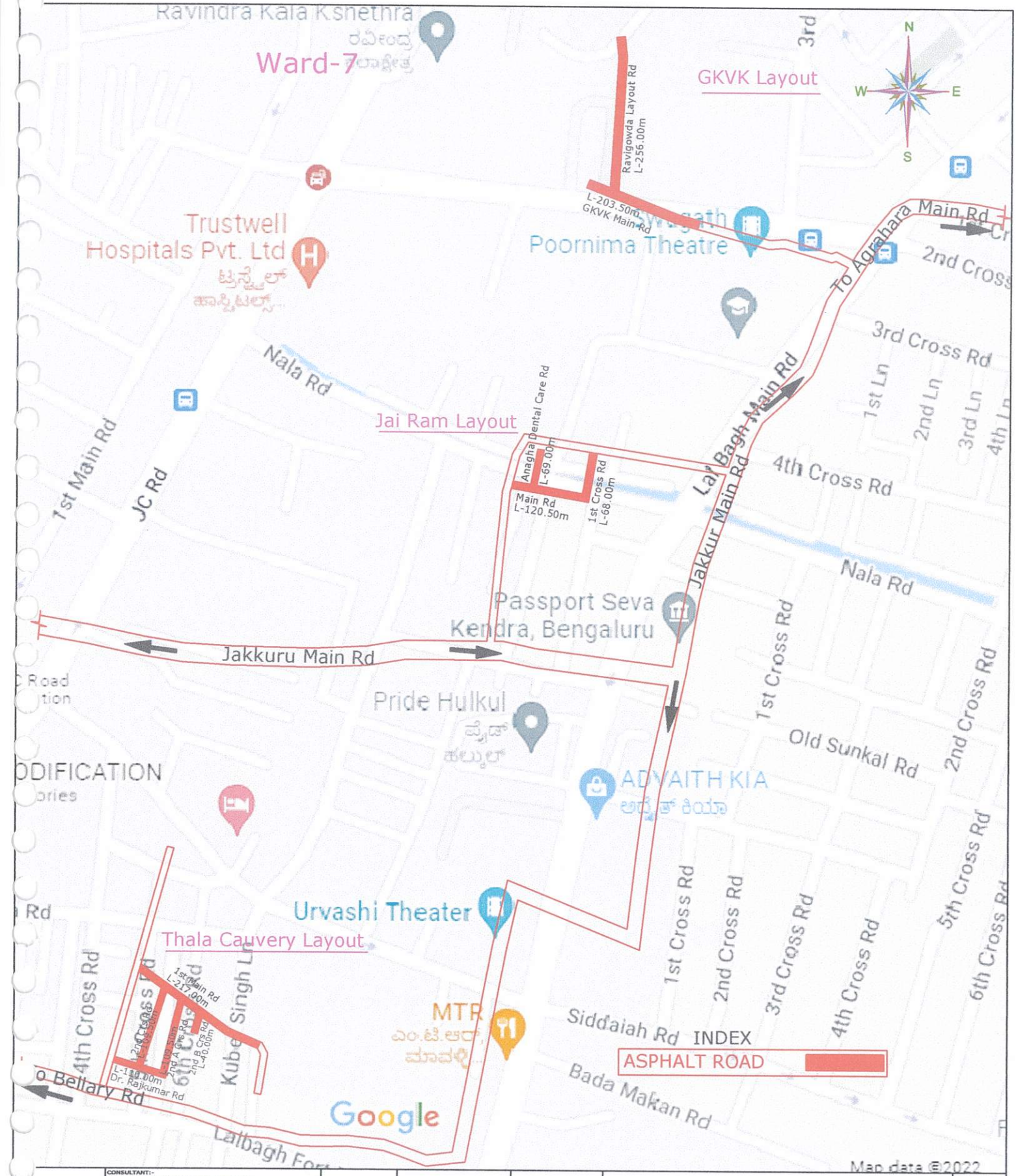

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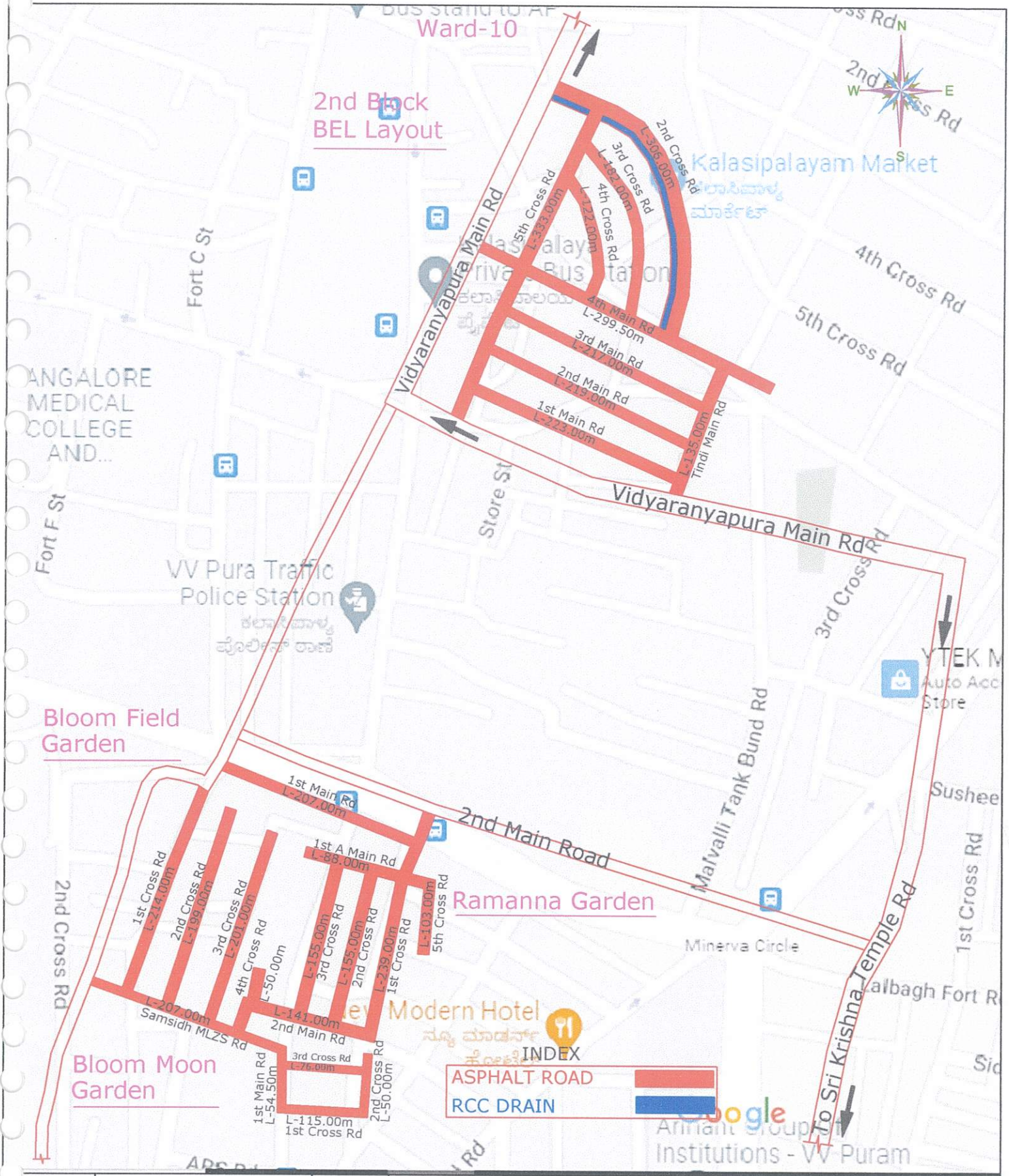

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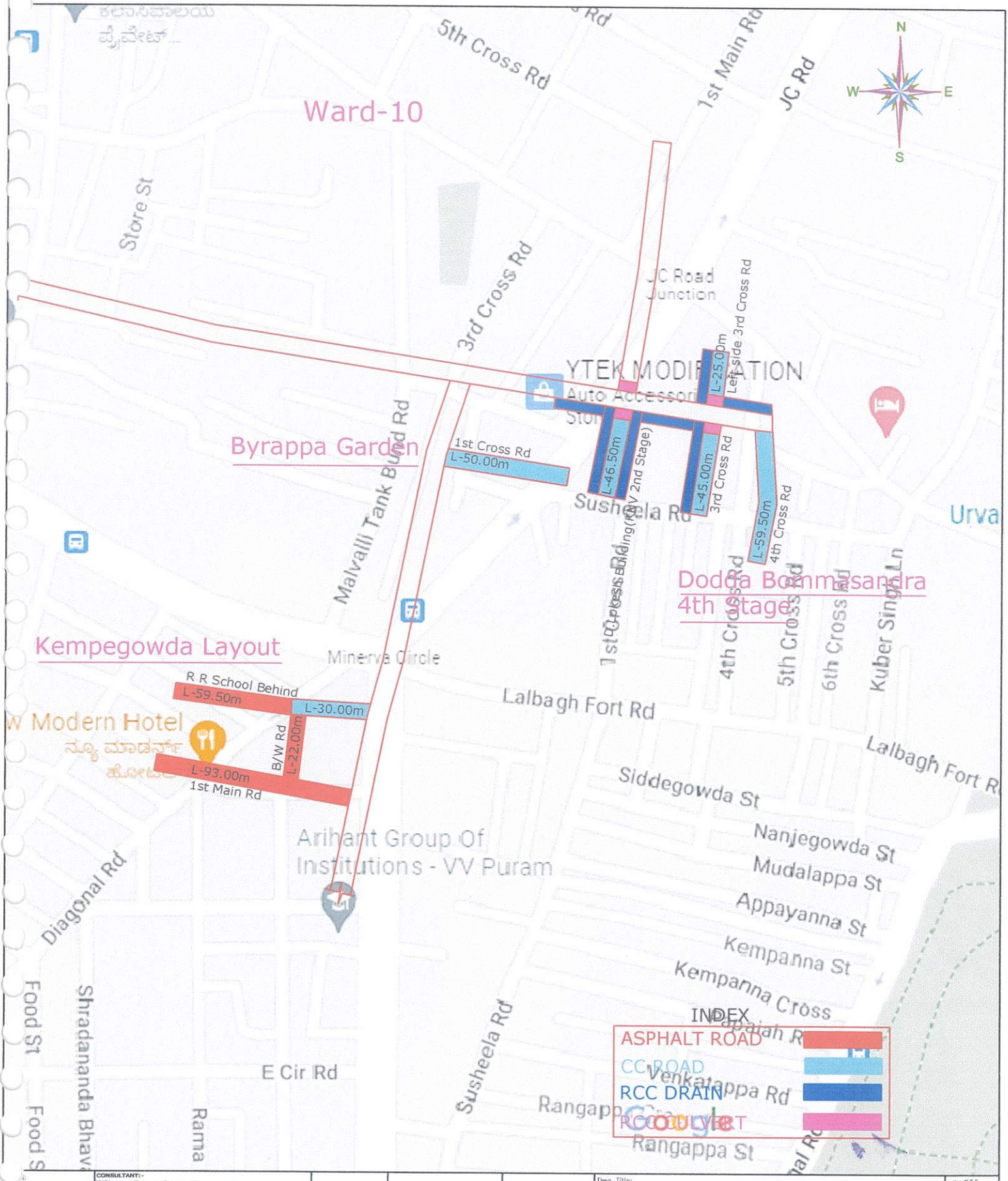
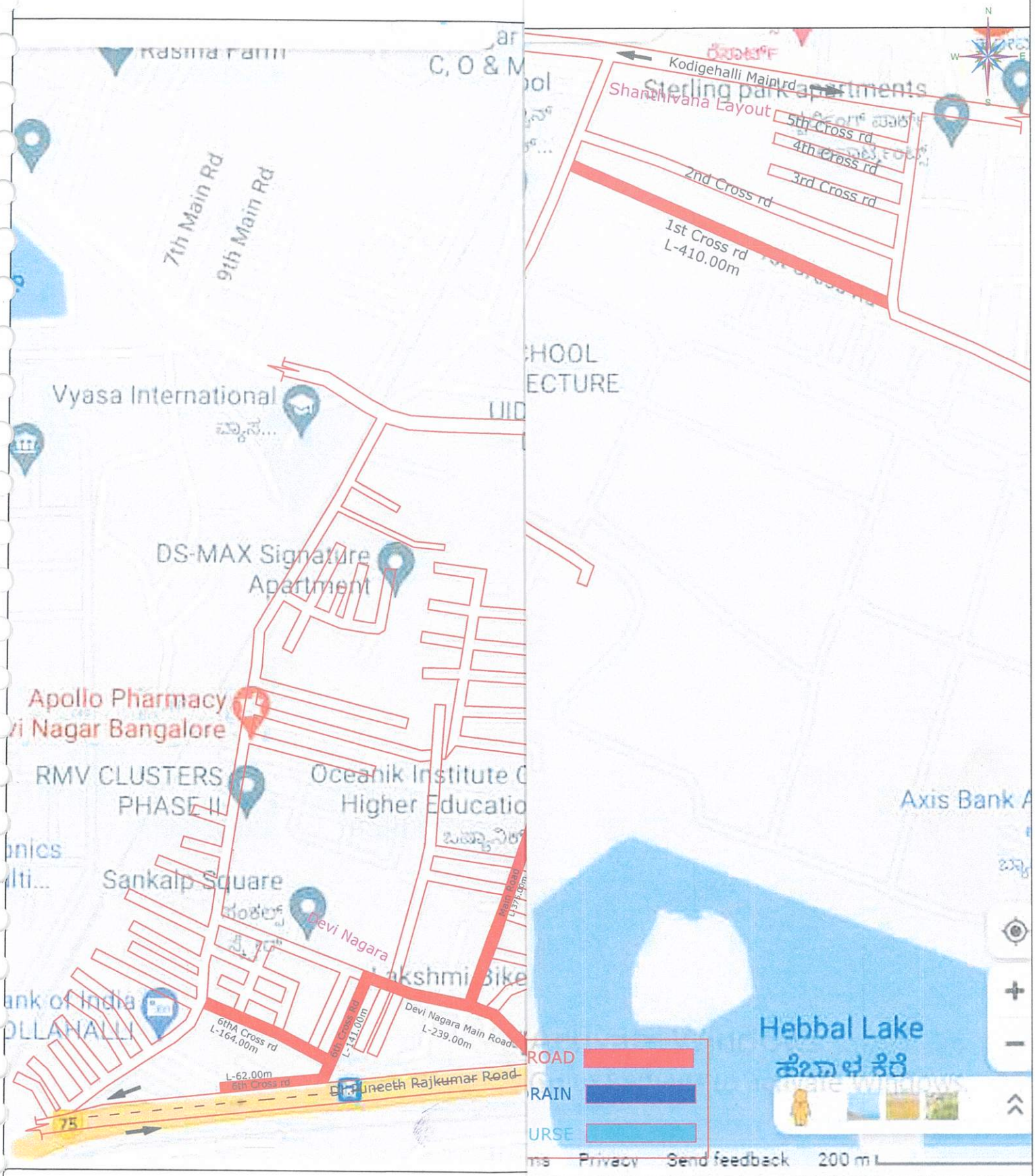


BRUHAT BANGALORE [illegible]HANAGARA PALIKE	CONSULTANT:- **Silicon Consulting Engineers** #S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR BANGALORE 560 091. E-mail siliconcivilengineers@gmail.com	Assistant Engineer	Assistant Executive Engineer	Executive Engineer	Dwg Title: Package–3	Scale: N.T.S Date Dwg no: Rev: R0

SILICON CONSULTING ENGINEERS



CLIENT :

BRUHAT BANGALORE MAHANAGARA PALIKE

CONSULTANT:-

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Scale: N.T.S

Date

Dwg No:

Rev: 00

Annexure A. 7.1
ABSTRACT BILL OF QUANTITIES
DRAFT TENDER SCHEDULE
DETAILED COST ESTIMATE
RATE ANALYSIS

Bruhat Bangalore Mahanagara Palike

Executive Engineer Bytarayanapura Division

Name of Work:PACKAGE NO-03 (Consists of 5 Works)

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
1	Removing and resetting Stone Slab of drain and pointing in C.M (1:3) (Approved Rate)								
	Approved Rate	**121.00**							
	Area Weightage 10%	**12.10**							
	Total	**133.10**							
		Sqm							
	Bottom Slab								
	Ward No-07								
	Chiranjeevi Layout								
	2nd Cross Rd	2	51.00	1.65		168.30			
	Neerabhavi ,Kemmanna Layout	2	125.00	1.65		412.50			
	Muniswamy Gowda Layout								
	1st A Cross Rd	2	35.00	1.65		115.50			
	1st B CrosS Rd	2	34.50	1.65		113.85			
	1st C Cross Rd	2	34.50	1.65		113.85			
	Ward No-08								
	Tata Nagar								
	Bescom Road	1	95.00	1.65		156.75			
	5th Main Road	2	360.00	1.65		1188.00			
	Sapthagiri Road	2	217.00	1.65		716.10			
	4th Main Road	2	310.00	1.65		1023.00			
	6th A Cross rd	1	155.00	1.65		255.75			
	3rd Main Rd	2	112.00	1.65		369.60			
	2nd Main Rd	2	112.00	1.65		369.60			
						5002.80			
	Consider 60%					3001.68			
	Deduct 20% Missing/Damaged Slab					600.34			
						2401.34			
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	1.65		504.90			
	3rd Cross Rd	1	182.00	1.65		300.30			
	4th Cross Rd	1	122.50	1.65		202.13			
	5th Cross Rd	1	333.00	1.65		549.45			
	Tindi Mane Rd	1	135.00	1.65		222.75			
	1st Main Rd	1	223.00	1.65		367.95			
	2nd Main Rd	1	219.00	1.65		361.35			
	3rd Main Rd	1	217.00	1.65		358.05			
	4th Main Rd	1	299.50	1.65		494.18			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	1.65		353.93			
	2nd Cross Rd	1	199.00	1.65		328.35			
	3rd Cross Rd	1	201.50	1.65		332.48			
	Samsidh MLZS Rd	1	207.00	1.65		341.55			
	4th Cross Rd	1	50.00	1.65		82.50			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	1.65		89.93			
	1st Cross Rd	1	115.00	1.65		189.75			
	2nd Cross Rd	1	50.00	1.65		82.50			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	3rd Cross Rd	1	76.00	1.65		125.40			
						5287.43			
	Consider 40%					2114.97			
	Deduct 15% Missing/Damaged Slab					317.25			
						1797.72			
						4199.07	**Sqm**	**133.10**	**558896.02**
2	Removing and Resetting of Footpath Slab and pointing in C.M (1:3) (Approved Rate)								
	Approved Rate	**235.00**							
	Area Weightage 10%	**23.50**							
	Total	**258.50**							
		Sqm							
	Top Slab								
	Ward No-07								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	2	200.00	0.90		360.00			
	Veeranpalya								
	6th Cross Rd	1	120.00	0.90		108.00			
	5th Cross Rd	1	115.00	0.90		103.50			
	4th Cross Rd	2	230.00	0.90		414.00			
						985.50			
	Consider 60%					591.30			
	Deduct 30% Missing/Damaged Slab					177.39			
						413.91			
	Ward No-08								
	Devi Nagara								
	Devi Nagara Main Rd	2	239.00	0.90		430.20			
	6th Cross Rd	2	141.00	0.90		253.80			
	6th Cross Rd Continue	2	62.00	0.90		111.60			
	6th A Cross Rd	2	164.00	0.90		295.20			
	Muneshwara Layout								
	1st Main Road	2	375.00	0.90		675.00			
						1765.80			
	Consider 60%					1059.48			
	Deduct 25% Missing/Damaged Slab					264.87			
						794.61			
	Sarovara Layout								
	1st Main Road	2	291.00	0.90		523.80			
	1st Cross Rd	2	52.00	0.90		93.60			
	2nd Cross Rd	2	53.00	0.90		95.40			
	Sarovara Main Road[Near Impact Clg] Continue	2	100.00	0.90		180.00			
						892.80			
	Consider 60%					535.68			
	Deduct 10% Missing/Damaged Slab					53.57			
						482.11			
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	0.90		275.40			
	3rd Cross Rd	1	182.00	0.75		136.50			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	4th Cross Rd	1	122.50	0.75		91.88			
	5th Cross Rd	1	333.00	0.75		249.75			
	Tindi Mane Rd	1	135.00	0.75		101.25			
	1st Main Rd	1	223.00	0.75		167.25			
	2nd Main Rd	1	219.00	0.75		164.25			
	3rd Main Rd	1	217.00	0.75		162.75			
	4th Main Rd	1	299.50	0.90		269.55			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	0.75		160.88			
	2nd Cross Rd	1	199.00	0.75		149.25			
	3rd Cross Rd	1	201.50	0.75		151.13			
	Samsidh MLZS Rd	1	207.00	0.90		186.30			
	4th Cross Rd	1	50.00	0.75		37.50			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	0.90		49.05			
	1st Cross Rd	1	115.00	0.90		103.50			
	2nd Cross Rd	1	50.00	0.90		45.00			
	3rd Cross Rd	1	76.00	0.90		68.40			
	Ramanna Garden								
	2nd Main Rd	1	141.00	0.90		126.90			
	1st Cross Rd	1	239.00	0.90		215.10			
	2nd Cross Rd	1	155.00	0.90		139.50			
	3rd Cross Rd	1	155.00	0.90		139.50			
	1st A Main Rd	1	88.00	0.90		79.20			
	5th Cross Rd	1	103.50	0.90		93.15			
	1st Main Rd	1	207.00	0.90		186.30			
						3549.23			
	Consider 60%					2129.54			
	Deduct 30% Missing/Damaged Slab					638.86			
						1490.67			
						3181.31	**Sqm**	**258.50**	**822367.73**
3	**Earth work excavation by manual means** for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 5.5 m3) (V-I.No 1.4,Page No-5 PWD SR 2021-22)								
	Basic Rate	186.00							
	Loading And Unloading	118.00							
	Sub Total	304.00							
	Area Weightage 10%	30.40							
	Total Rate	**334.40**							
	Rcc Drain								
	Ward No-07								
	Veeranpalya								
	6th Cross Rd	1	110.00	1.00	1.10	121.00			
	United core Rd	2	115.00	1.00	1.15	264.50			
	For Culverts	8	6.00	1.50	1.15	82.80			
	Drain Desilt								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Chiranjeevi Layout								
	Neerabhavi ,Kemmanna Layout	2	125.00	0.45	0.45	50.63			
	Ward No-08								
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00	1.10	1.25	371.25			
	Lead Off Drain	2	40.00	1.10	1.00	88.00			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00	1.10	1.10	665.50			
	JR Rd	2	140.00	1.10	1.05	323.40			
	Balaji Layout								
	7th Cross Rd	2	120.00	1.10	1.00	264.00			
	For Culverts								
	Tata Nagar	9	6.40	1.50	1.00	86.40			
	Sarovara Layout	8	6.20	1.50	1.00	74.40			
	Shyanbhog Narayanappa Layout	13	6.00	1.50	1.00	117.00			
	Drain Desilt								
	Tata Nagar								
	Bescom Road	1	95.00	0.45	0.45	19.24			
	5th Main Road	2	360.00	0.45	0.45	145.80			
	Sapthagiri Road	2	217.00	0.45	0.45	87.89			
	4th Main Road	2	310.00	0.45	0.35	97.65			
	6th A Cross rd	1	155.00	0.45	0.45	31.39			
	3rd Main Rd	2	112.00	0.45	0.45	45.36			
	2nd Main Rd	2	112.00	0.45	0.45	45.36			
	Ward No-10								
	RCC Drain								
	2nd Block BEL Layout								
	2nd Cross Rd	1	310.00	1.00	1.10	341.00			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	2	46.50	1.00	1.10	102.30			
	2nd Cross Rd	1	35.00	1.00	1.10	38.50			
	3rd Cross Rd	1	45.00	1.00	1.10	49.50			
	Left Side 3rd Cross Rd	1	26.00	1.00	1.10	28.60			
	Lead Off Drain	1	245.00	1.10	1.10	296.45			
	For Culverts								
	Nanjappa Layout	10	6.40	1.50	1.10	105.60			
	Hanuman Layout	10	6.40	1.50	1.10	105.60			
	Patel pille Gowda Layout	10	6.40	1.50	1.10	105.60			
	Drain Desilt								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	0.45	0.45	61.97			
	3rd Cross Rd	1	182.00	0.45	0.45	36.86			
	4th Cross Rd	1	122.50	0.45	0.45	24.81			
	5th Cross Rd	1	333.00	0.45	0.45	67.43			
	Tindi Mane Rd	1	135.00	0.45	0.45	27.34			
	1st Main Rd	1	223.00	0.45	0.45	45.16			
	2nd Main Rd	1	219.00	0.45	0.45	44.35			
	3rd Main Rd	1	217.00	0.45	0.45	43.94			
	4th Main Rd	1	299.50	0.45	0.45	60.65			
	Bloom Field Garden								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	1st Cross Rd	1	214.50	0.45	0.45	43.44			
	2nd Cross Rd	1	199.00	0.45	0.45	40.30			
	3rd Cross Rd	1	201.50	0.45	0.45	40.80			
	Samsidh MLZS Rd	1	207.00	0.45	0.45	41.92			
	4th Cross Rd	1	50.00	0.45	0.45	10.13			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	0.60	0.55	17.99			
	1st Cross Rd	1	115.00	0.60	0.60	41.40			
	2nd Cross Rd	1	50.00	0.60	0.60	18.00			
	3rd Cross Rd	1	76.00	0.60	0.55	25.08			
	Ramanna Garden								
	2nd Main Rd	1	141.00	0.60	0.45	38.07			
	1st Cross Rd	1	239.00	0.60	0.60	86.04			
	2nd Cross Rd	1	155.00	0.60	0.60	55.80			
	3rd Cross Rd	1	155.00	0.60	0.55	51.15			
	1st A Main Rd	1	88.00	0.60	0.60	31.68			
	5th Cross Rd	1	103.50	0.60	0.60	37.26			
	1st Main Rd	1	207.00	0.60	0.55	68.31			
						5214.55	**Cum**	**334.40**	**1743746.36**
4	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) **Mix 1:3:6 (M10) Using 40 mm** nominal size graded crushed coarse aggregates (V-1, P.No-15, I No-2.1.3 of PWD SR 2021-22)								
	Basic Rate	**5752.00**							
	Area Weightage 10%	**575.20**							
	Total Rate	**6327.20**							
	Ward No-07								
	Rcc Drain								
	Veeranpalya								
	6th Cross Rd	1	110.00	1.00	0.15	16.50			
	United core Rd	2	115.00	1.00	0.15	34.50			
	For Culverts	8	6.00	1.50	0.15	10.80			
	Ward No-08								
	Rcc Drain								
	Sarovara Layout								
	Clg] Continue	1	270.00	1.10	0.15	44.55			
	Lead Off Drain	2	45.00	1.10	0.15	14.85			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00	1.10	0.15	90.75			
	JR Rd	2	140.00	1.10	0.15	46.20			
	Balaji Layout								
	7th Cross Rd	2	120.00	1.10	1.00	264.00			
	For Culverts								
	Tata Nagar	9	6.40	1.50	0.15	12.96			
	Sarovara Layout	8	6.20	1.50	0.15	11.16			
	Shyanbhog Narayanappa Layout	13	6.00	1.50	0.15	17.55			
	Ward No-10								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	RCC Drain								
	2nd Block BEL Layout								
	2nd Cross Rd	1	310.00	1.00	0.15	46.50			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	2	46.50	1.00	0.15	13.95			
	2nd Cross Rd	1	35.00	1.00	0.15	5.25			
	3rd Cross Rd	1	45.00	1.00	0.15	6.75			
	Left Side 3rd Cross Rd	1	26.00	1.00	0.15	3.90			
	Lead Off Drain	1	245.00	1.10	0.15	40.43			
	For Culverts								
	Nanjappa Layout	10	6.40	1.50	0.15	14.40			
	Hanuman Layout	10	6.40	1.50	0.15	14.40			
	Patel pille Gowda Layout	10	6.40	1.50	0.15	14.40			
						723.80	**Cum**	**6327.20**	**4579595.72**
5	Supplying, **Fitting and Placing un-coated TMT bar** Reinforcement in sub-structure complete as per Drawing and Technical Specifications.(V-III, I.No 13.1 Page No 99, PWD SR 2021-22)								
	Basic Rate	**103329.00**							
	Area Weightage 10%	**10332.90**							
	Total Rate	**113661.90**							
	For RCC Drain , 60kg/Sqm	1	811.88	60.00		48712.50			
	For RCC Culvert, 90kg/Sqm	1	215.82	90.00		19423.37			
						68.14	**Tn**	**113661.90**	**7744452.22**
6	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) **M20 Design Mix Using 20 mm nominal** size graded crushed coarse aggregates (V-1,P.No.17, I.No.2.4.2 of PWD SR 2021-22)								
	Basic Rate	**6256.00**							
	5% for Centring	**312.80**							
	Sub Total	**6568.80**							
	Area Weightage 10%	**656.88**							
	Total Rate	**7225.68**							
	Rcc Drain Raft								
	Ward No-07								
	Veeranpalya								
	6th Cross Rd	1	110.00	0.80	0.15	13.20			
	United core Rd	2	115.00	0.80	0.15	27.60			
	Ward No-08								
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00	0.90	0.15	36.45			
	Lead Off Drain	2	40.00	0.90	0.15	10.80			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00	0.90	0.15	74.25			
	JR Rd	2	140.00	0.90	0.15	37.80			
	Balaji Layout								
	7th Cross Rd	2	120.00	0.90	0.15	32.40			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	1	310.00	0.80	0.15	37.20			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	2	46.50	0.80	0.15	11.16			
	2nd Cross Rd	1	35.00	0.80	0.15	4.20			
	3rd Cross Rd	1	45.00	0.80	0.15	5.40			
	Left Side 3rd Cross Rd	1	26.00	0.80	0.15	3.12			
	Lead Off Drain	1	245.00	0.90	0.15	33.08			
	Rcc Drain Wall								
	Ward No-07								
	Veeranpalya								
	6th Cross Rd	2	110.00	0.15	0.60	19.80			
	United core Rd	4	115.00	0.15	0.60	41.40			
	Ward No-08								
	Sarovara Layout								
	Clg] Continue	2	270.00	0.15	0.80	64.80			
	Lead Off Drain	4	40.00	0.15	0.75	18.00			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	4	275.00	0.15	0.65	107.25			
	JR Rd	4	140.00	0.15	0.60	50.40			
	Balaji Layout								
	7th Cross Rd	4	120.00	0.15	0.60	43.20			
	2nd Block BEL Layout								
	2nd Cross Rd	2	310.00	0.15	0.65	60.45			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	4	46.50	0.15	0.60	16.74			
	2nd Cross Rd	2	35.00	0.15	0.60	6.30			
	3rd Cross Rd	2	45.00	0.15	0.60	8.10			
	Left Side 3rd Cross Rd	2	26.00	0.15	0.60	4.68			
	Lead Off Drain	2	245.00	0.15	0.60	44.10			
						811.88			
	Culvert Raft								
	Ward No-07								
	Chiranjeevi Layout	8	6.00	1.20	0.20	11.52			
	Ward No-08								
	Tata Nagar	9	6.40	1.20	0.20	13.82			
	Sarovara Layout	8	6.20	1.20	0.20	11.90			
	Shyanbhog Narayanappa Layout	13	6.00	1.20	0.20	18.72			
	Ward No-10								
	Nanjappa Layout	10	6.40	1.20	0.20	15.36			
	Hanuman Layout	10	6.40	1.20	0.20	15.36			
	Patel pille Gowda Layout	10	6.40	1.20	0.20	15.36			
	Culvert Wall								
	Ward No-07								
	Chiranjeevi Layout	16	6.00	0.23	0.60	13.25			
	Ward No-08								
	Tata Nagar	18	6.40	0.23	0.60	15.90			
	Sarovara Layout	16	6.20	0.23	0.60	13.69			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Shyanbhog Narayanappa Layout	26	6.00	0.23	0.50	17.94			
	Ward No-10								
	Nanjappa Layout	20	6.40	0.23	0.60	17.66			
	Hanuman Layout	20	6.40	0.23	0.60	17.66			
	Patel pille Gowda Layout	20	6.40	0.23	0.60	17.66			
						215.82			
						1027.69	**Cum**	**7225.68**	**7425760.52**
7	Providing and laying in position **plain cement concrete** for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. **Mix 1:3:6 (M10) Using 20 mm** nominal size graded crushed coarse aggregates (V-I, No-2.1.4, P.No-15 of PWD SR 2021-22).								
	Basic rate	**5926.00**							
	Area Weightage 10%	**592.60**							
	Total	**6518.60**							
	Flagging Course PCC	**Cum**							
	Ward No-07								
	Chiranjeevi Layout								
	2nd Cross Rd	4	51.00	0.20	0.10	4.08			
	Neerabhavi ,Kemmanna Layout	4	125.00	0.20	0.10	10.00			
	Muniswamy Gowda Layout								
	1st A Cross Rd	4	35.00	0.20	0.10	2.80			
	1st B CrosS Rd	4	34.50	0.20	0.10	2.76			
	Ward No-08								
	Tata Nagar								
	Sapthagiri Road	4	217.00	0.20	0.10	17.36			
	Flagging Course Coping								
	Ward No-07								
	2nd Cross Rd	4	51.00	0.15	0.10	3.06			
	Neerabhavi ,Kemmanna Layout	4	125.00	0.15	0.10	7.50			
	Muniswamy Gowda Layout								
	1st A Cross Rd	4	35.00	0.15	0.10	2.10			
	1st B CrosS Rd	4	34.50	0.15	0.10	2.07			
	Ward No-08								
	Tata Nagar								
	Sapthagiri Road	4	217.00	0.15	0.10	13.02			
	For Below Kerb Stone								
	Ward No-08								
	Tata Nagar								
	Sapthagiri Road	2	217.00	0.20	0.10	8.68			
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00	0.20	0.10	5.40			
	1st Main Road	2	115.00	0.20	0.10	4.60			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00	0.20	0.10	11.00			
	JR Rd	2	140.00	0.20	0.10	5.60			
						100.03	**Cum**	**6518.60**	**652055.56**

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
8	Providing and constructing load bearing wall with **Solid Concrete blocks** of size 400x150x200mm having block density more than 1800kg/m3 and minimum compressive strength of 4.00 N/mm2 conforming to IS 2185 (Part - I) - 2005 and constructed with CM 1:4 as per IS 2572:2005 including cost of all materials, labour, scaffolding and curing, usage charges of machinery etc complete as per specifications. (V-2, No-6.33, P.No-17 of PWD SR 2021-22).								
	Basic rate	**1067.00**							
	Area Weightage 10%	**106.70**							
	Total	**1173.70**							
	Flagging Course	**Sqm**							
	Ward No-07								
	Chiranjeevi Layout								
	2nd Cross Rd	4	51.00		0.20	40.80			
	Neerabhavi ,Kemmanna Layout	4	125.00		0.20	100.00			
	Muniswamy Gowda Layout								
	1st A Cross Rd	4	35.00		0.20	28.00			
	1st B CrosS Rd	4	34.50		0.20	27.60			
	Ward No-08								
	Tata Nagar								
	Sapthagiri Road	4	217.00		0.20	173.60			
						370.00	**Sqm**	**1173.70**	**434269.00**
9	Providing and fixing **precast reinforced cement concrete covering slabs of 10Cm thick** made of M20 with OPC cement,with 20mm and down size graded granite metal coarse aggregate @0.70 mixed, Inculding providing and removing centering, shuttering, strutting propping etc., for edges of slabs with TMT steel (Fe500) cost of all materials, labour, all lead and lift, HOM of machinery, curing, including cost of reinforcement etc., complete as directed by the Engineer in charge of the work								
	Data Rate	**2072.00**							
	Ward No-07								
	Chiranjeevi Layout								
	2nd Cross Rd	2	51.00	0.75		76.50			
	Neerabhavi ,Kemmanna Layout	2	125.00	0.90		225.00			
	Muniswamy Gowda Layout								
	1st A Cross Rd	2	35.00	0.75		52.50			
	1st B CrosS Rd	2	34.50	0.75		51.75			
	Veeranpalya								
	6th Cross Rd	1	110.00	0.75		82.50			
	United core Rd	2	115.00	0.75		172.50			
	Add Missing/Damaged Slab					177.39			
						838.14			
	Deduct 20% Bs Slab					167.63			
						670.51			
	Ward No-08								
	Tata Nagar								
	Sapthagiri Road	2	217.00	0.90		390.60			
						390.60			
	Add Damaged/Missing Slab					297.87			
						688.47			
	Deduct 30% Top Bs Slab					206.54			
						481.93			
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00	0.90		243.00			
	Lead Off Drain	2	40.00	0.90		72.00			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Add Missing/Damaged Slab					45.00			
						360.00			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00	0.90		495.00			
	JR Rd	2	140.00	0.90		252.00			
	Balaji Layout								
	7th Cross Rd	2	120.00	0.90		216.00			
						963.00			
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	1	310.00	0.75		232.50			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	2	46.50	0.75		69.75			
	2nd Cross Rd	1	35.00	0.75		26.25			
	3rd Cross Rd	1	45.00	0.75		33.75			
	Left Side 3rd Cross Rd	1	26.00	0.75		19.50			
	Lead Off Drain	1	245.00	0.90		220.50			
	Add Missing/Damaged Slab					402.00			
						1004.25			
						3479.69	**Sqm**	**2072.00**	**7209919.75**
10	Providing and fixing **RCC precast cover slab of 230mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data Rate	**5037.00**							
	For Cuiverts								
	Ward No-07								
	Chiranjeevi Layout	8	6.00	1.20		57.60			
	Ward No-08								
	Tata Nagar	9	6.40	1.20		69.12			
	Sarovara Layout	8	6.20	1.20		59.52			
	Shyanbhog Narayanappa Layout	13	6.00	1.20		93.60			
	Ward No-10								
	Nanjappa Layout	10	6.40	1.20		76.80			
	Hanuman Layout	10	6.40	1.20		76.80			
	Patel pille Gowda Layout	10	6.40	1.20		76.80			
						510.24	**Sqm**	**5037.00**	**2570078.88**
11	Providing **B S slabs of selected quality roughly dressed having a size of 10 cms** thick and fixed in cement mortar (1:6) including fixing curing ete., complete. as directed by the Engineer in Charge of the work (excluding GST and Area Leading Charges) (Approved Rate)								
	Approved rate	**837.00**							
	Area Weightage 10%	**83.70**							
	Total	**920.70**							
	Ward -7								
	Top 20% Slab					167.63			
	Ward-8								
	Top Slab 30%					206.54			
	Ward-10								
	Top missing/Damaged Slab Qty from Item No-2					638.86			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
						1013.03	**Sqm**	**920.70**	**932696.26**
12	Providing and fixing pre cast **solid cement concrete kerb stones** made out of M20 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete as directed by the Engineer in Charge of the work (Approved Rate)								
	Approved rate	**507.00**							
	For Kerb Stone								
	Ward No-08								
	Tata Nagar								
	Sapthagiri Road	2	217.00			434.00			
						434.00	M		
	Deduct 20% Existing Kerb					82.46			
						351.54	M		
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00			270.00			
						270.00			
	1st Main Road	2	285.00			570.00			
	Consider 20%					114.00			
						384.00	M		
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00			550.00			
	JR Rd	2	140.00			280.00			
						830.00			
	Deduct Existing 10 % Kerb					83.00			
						747.00	**M**		
						1482.54			
						3295.00	**Nos**	**507.00**	**1670565.00**
13	**Painting two coats** after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces (V-III, P.No.56, I.No.8.10 of PW, PWD SR 2021-22)								
	Basic Rate	85.00							
	Area Weightage 10%	8.50							
	Total Rate	**93.50**							
	For Kerb Stone								
	Ward No-08								
	Tata Nagar								
	Sapthagiri Road	2	217.00		0.35	151.90			
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00		0.35	94.50			
	1st Main Road	2	285.00		0.35	199.50			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00		0.35	192.50			
	JR Rd	2	140.00		0.35	98.00			
						736.40	**Sqm**	**93.50**	**68,853.40**
14	Earth work in surface **excavation by mechanical means** for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work ((V-I, P.No-8, I No-1.12 of PWD SR 2021-22)								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Basic Rate	**65.00**							
	Area Weightage 10%	6.50							
	Total Rate	**71.50**							
	Asphalt Road								
	Ward No-07								
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	2.00	0.25	70.00			
	New Asphalt Road								
	GKVK Layout								
	Ravi Gowda Layout	1	256.00	5.40	0.25	345.60			
	Edge Correction/ Damage Portion/Bad reaches								
	Chiranjeevi Layout								
		6	4.00	2.00	0.25	12.00			
		4	6.00	1.00	0.25	6.00			
		3	2.00	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		5	2.00	1.20	0.25	3.00			
	Muniswamy Gowda Layout								
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		4	1.50	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		5	2.00	1.20	0.25	3.00			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		4	1.50	1.20	0.25	1.80			
		6	1.50	1.20	0.25	2.70			
	Veeranpalya								
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		4	1.50	1.20	0.25	1.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		5	2.00	1.20	0.25	3.00			
		8	4.00	1.60	0.25	12.80			
	Jai Ram Layout								
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		4	1.50	1.20	0.25	1.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
	GKVK Layout								
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		4	1.50	1.20	0.25	1.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		5	2.00	1.20	0.25	3.00			
	Ward No-08								
	Edge Correction/ Damage Portion/Bad reaches								
	Tata Nagar								
	1st Main Rd								
		4	6.00	1.00	0.25	6.00			
		3	2.00	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		5	4.00	1.60	0.25	8.00			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		5	4.00	1.60	0.25	8.00			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		6	1.50	1.20	0.25	2.70			
	B-w Road								
		4	6.00	1.00	0.25	6.00			
		3	2.00	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
	Sapthagiri Hall Road								
		3	1.50	1.20	0.25	1.35			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		3	1.50	1.20	0.25	1.35			
		4	6.00	1.00	0.25	6.00			
		3	2.00	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		5	4.00	1.60	0.25	8.00			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
	1st Cross Kote Badavane								
		3	1.50	1.20	0.25	1.35			
		4	1.50	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		5	2.00	1.20	0.25	3.00			
	2nd Cross Kote Badavane								
		3	1.50	1.20	0.25	1.35			
		4	1.50	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		5	4.00	1.60	0.25	8.00			
	3rd Cross Kote Badavane								
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		5	4.00	1.60	0.25	8.00			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		4	6.00	1.00	0.25	6.00			
	Cut Portion								
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	1.00	0.25	59.75			
	6th Cross Rd	1	141.00	0.50	0.25	17.63			
	6th Cross Rd Continue	1	62.00	0.40	0.25	6.20			
	6th A Cross Rd	1	164.00	0.70	0.25	28.70			
	Cross Rd	1	200.00	0.80	0.25	40.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	1.20	0.25	112.50			
	1st Cross Rd	1	100.00	0.90	0.25	22.50			
	2nd Cross Rd	1	100.00	1.10	0.25	27.50			
	3rd Cross Rd	1	67.00	0.60	0.25	10.05			
	Sarovara Layout								
	New Asphalt Road								
	Sarovara Main Road[Near Impact Clg]	1	178.00	6.20	0.25	275.90			
	Edge Correction/ Damage Portion/Bad reaches								
	Shantivana Layout								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	1st Cross Rd	1	410.00	2.50	0.25	256.25			
	Sarovara Layout								
	1st Main Road	1	291.00	3.50	0.25	254.63			
	1st Cross Rd	1	52.00	0.70	0.25	9.10			
	2nd Cross Rd	1	53.00	0.90	0.25	11.93			
	Sarovara Main Road[Near Impact Clg] Continue	1	204.50	0.80	0.25	40.90			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	130.00	5.90	0.25	191.75			
	Edge Correction/ Damage Portion/Bad reaches								
	Shyanbhog Narayanappa Layout								
		6	4.00	2.00	0.25	12.00			
		4	6.00	1.00	0.25	6.00			
		3	2.00	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		5	4.00	1.60	0.25	8.00			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		6	1.50	1.20	0.25	2.70			
	Cut Portion								
	1st Cross Rd	1	151.00	0.60	0.25	22.65			
	JR Rd	1	140.00	0.60	0.25	21.00			
	Cross Rd	1	175.00	0.60	0.25	26.25			
	Balaji Layout								
	7th Cross Rd	1	235.00	1.00	0.25	58.75			
	Ward No-10								
	Asphalt Road								
	Edge Correctin/ Damage Portion/Bad reaches								
	2nd Block BEL Layout								
		10	5.00	2.00	0.25	25.00			
		8	3.00	1.80	0.25	10.80			
		6	6.00	1.50	0.25	13.50			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
		7	5.00	1.90	0.25	16.63			
		6	6.00	1.50	0.25	13.50			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
		7	5.00	1.90	0.25	16.63			
		5	4.00	1.30	0.25	6.50			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		2	4.00	1.70	0.25	3.40			
		5	3.50	1.50	0.25	6.56			
		5	4.00	1.30	0.25	6.50			
		2	4.00	1.70	0.25	3.40			
		5	3.50	1.50	0.25	6.56			
		5	3.00	2.00	0.25	7.50			
		3	2.00	1.60	0.25	2.40			
	Bloom Field Garden								
		15	3.00	1.80	0.25	20.25			
		7	2.00	1.50	0.25	5.25			
		4	3.50	1.00	0.25	3.50			
		7	5.00	1.90	0.25	16.63			
		6	3.00	2.00	0.25	9.00			
		4	5.00	2.00	0.25	10.00			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
		5	4.00	1.30	0.25	6.50			
		2	4.00	1.70	0.25	3.40			
		3	2.40	1.30	0.25	2.34			
		2	1.60	1.00	0.25	0.80			
	Bloom Moon Garden								
		6	3.00	2.00	0.25	9.00			
		5	3.50	1.50	0.25	6.56			
		5	3.00	2.00	0.25	7.50			
		3	2.00	1.60	0.25	2.40			
		5	3.50	1.50	0.25	6.56			
		5	3.50	1.50	0.25	6.56			
		5	3.00	2.00	0.25	7.50			
		8	5.00	2.00	0.25	20.00			
		7	7.00	2.00	0.25	24.50			
		6	3.00	2.00	0.25	9.00			
		7	7.00	2.00	0.25	24.50			
		6	3.00	2.00	0.25	9.00			
		4	5.00	2.00	0.25	10.00			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
	Ramanna Garden								
		12	2.50	2.00	0.25	15.00			
		9	5.20	1.80	0.25	21.06			
		2	4.00	1.70	0.25	3.40			
		6	6.00	1.50	0.25	13.50			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
		7	5.00	1.90	0.25	16.63			
		5	4.00	1.30	0.25	6.50			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		2	4.00	1.70	0.25	3.40			
		7	5.00	1.90	0.25	16.63			
		5	4.00	1.30	0.25	6.50			
		2	4.00	1.70	0.25	3.40			
		5	3.50	1.50	0.25	6.56			
		5	3.50	1.50	0.25	6.56			
		5	3.00	2.00	0.25	7.50			
		8	5.00	2.00	0.25	20.00			
		7	7.00	2.00	0.25	24.50			
		6	3.00	2.00	0.25	9.00			
		4	5.00	2.00	0.25	10.00			
		3	4.00	1.90	0.25	5.70			
	Kempegowda Layout								
		5	3.50	1.50	0.25	6.56			
		5	3.00	2.00	0.25	7.50			
		6	5.00	2.00	0.25	15.00			
		7	5.00	2.00	0.25	17.50			
						3137.70	**Cum**	**71.50**	**224345.55**
15	**Construction of Embankment** by excavating the available approved Gravel/Murrum deposited at a place or borrow pits during or prior excavation with all lifts and lead, transportation to site, spreading, grading to required slope and compacting to meet the requirement complete as per specifications, including cost of labour,rolling,water,all materials,usage& all other appurtenaces required to complete the work ((V-I, P.No-7, I No-1.8 of PWD SR 2021-22)								
	Basic Rate	**402.00**							
	Area Weightage 10%	40.20							
	Total Rate	**442.20**							
	Ward No-08								
	Sarovara Layout								
	1st Main Road	1	291.00	6.30	0.30	549.99			
						549.99	**Cum**	**442.20**	**243205.58**
16	Providing, laying, spreading and compacting graded stone aggregate to **wet mix macadam** specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density (V-III, P.No-24,I No-4.27A)of PWD SR 2021-22).								
	Basic Rate	**2394.00**							
	Area Weightage 10%	239.40							
	Total Rate	**2633.40**							
	Ward No-07								
	Asphalt Road								
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	2.00	0.225	63.00			
	New Asphalt Road								
	GKVK Layout								
	Ravi Gowda Layout	1	256.00	5.40	0.225	311.04			
	Edge Correction/ Damage Portion/Bad reaches								
	Chiranjeevi Layout								
		6	4.00	2.00	0.225	10.80			
		4	6.00	1.00	0.225	5.40			
		3	2.00	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		5	2.00	1.20	0.225	2.70			
	Muniswamy Gowda Layout								
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		4	1.50	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		5	2.00	1.20	0.225	2.70			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		4	1.50	1.20	0.225	1.62			
		6	1.50	1.20	0.225	2.43			
	Veeranpalya								
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		4	1.50	1.20	0.225	1.62			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		5	2.00	1.20	0.225	2.70			
		8	4.00	1.60	0.225	11.52			
	Jai Ram Layout								
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		4	1.50	1.20	0.225	1.62			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	GKVK Layout								
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		4	1.50	1.20	0.225	1.62			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		5	2.00	1.20	0.225	2.70			
	Ward No-08								
	Edge Correction/ Damage Portion/Bad reaches								
	Tata Nagar								
	1st Main Rd								
		4	6.00	1.00	0.225	5.40			
		3	2.00	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		5	4.00	1.60	0.225	7.20			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		5	4.00	1.60	0.225	7.20			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		6	1.50	1.20	0.225	2.43			
	B-w Road								
		4	6.00	1.00	0.225	5.40			
		3	2.00	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
	Sapthagiri Hall Road								
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		4	6.00	1.00	0.225	5.40			
		3	2.00	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		5	4.00	1.60	0.225	7.20			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
	1st Cross Kote Badavane								
		3	1.50	1.20	0.225	1.22			
		4	1.50	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		5	2.00	1.20	0.225	2.70			
	2nd Cross Kote Badavane								
		3	1.50	1.20	0.225	1.22			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		4	1.50	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		5	4.00	1.60	0.225	7.20			
	3rd Cross Kote Badavane								
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		5	4.00	1.60	0.225	7.20			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		4	6.00	1.00	0.225	5.40			
	Cut Portion								
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	1.00	0.225	53.78			
	6th Cross Rd	1	141.00	0.50	0.225	15.86			
	6th Cross Rd Continue	1	62.00	0.40	0.225	5.58			
	6th A Cross Rd	1	164.00	0.70	0.225	25.83			
	Cross Rd	1	200.00	0.80	0.225	36.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	1.20	0.225	101.25			
	1st Cross Rd	1	100.00	0.90	0.225	20.25			
	2nd Cross Rd	1	100.00	1.10	0.225	24.75			
	3rd Cross Rd	1	67.00	0.60	0.225	9.05			
	Sarovara Layout								
	New Asphalt Road								
	Sarovara Main Road[Near Impact Clg]	1	178.00	6.20	0.225	248.31			
	Edge Correction/ Damage Portion/Bad reaches								
	Shantivana Layout								
	1st Cross Rd	1	410.00	2.50	0.225	230.63			
	Sarovara Layout								
	1st Main Road	1	291.00	3.50	0.225	229.16			
	1st Cross Rd	1	52.00	0.70	0.225	8.19			
	2nd Cross Rd	1	53.00	0.90	0.225	10.73			
	Sarovara Main Road[Near Impact Clg] Continue	1	204.50	0.80	0.225	36.81			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	130.00	5.90	0.225	172.58			
	Edge Correction/ Damage Portion/Bad reaches								
	Shyanbhog Narayanappa Layout								
		6	4.00	2.00	0.225	10.80			
		4	6.00	1.00	0.225	5.40			
		3	2.00	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		5	4.00	1.60	0.225	7.20			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		6	1.50	1.20	0.225	2.43			
	Cut Portion								
	1st Cross Rd	1	151.00	0.60	0.225	20.39			
	JR Rd	1	140.00	0.60	0.225	18.90			
	Cross Rd	1	175.00	0.60	0.225	23.63			
	Balaji Layout								
	7th Cross Rd	1	235.00	1.00	0.225	52.88			
	Ward No-10								
	Asphalt Road								
	Edge Correctin/ Damage Portion/Bad reaches								
	2nd Block BEL Layout								
		10	5.00	2.00	0.225	22.50			
		8	3.00	1.80	0.225	9.72			
		6	6.00	1.50	0.225	12.15			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
		7	5.00	1.90	0.225	14.96			
		6	6.00	1.50	0.225	12.15			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
		7	5.00	1.90	0.225	14.96			
		5	4.00	1.30	0.225	5.85			
		2	4.00	1.70	0.225	3.06			
		5	3.50	1.50	0.225	5.91			
		5	4.00	1.30	0.225	5.85			
		2	4.00	1.70	0.225	3.06			
		5	3.50	1.50	0.225	5.91			
		5	3.00	2.00	0.225	6.75			
		3	2.00	1.60	0.225	2.16			
	Bloom Field Garden								
		15	3.00	1.80	0.225	18.23			
		7	2.00	1.50	0.225	4.73			
		4	3.50	1.00	0.225	3.15			
		7	5.00	1.90	0.225	14.96			
		6	3.00	2.00	0.225	8.10			
		4	5.00	2.00	0.225	9.00			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
		5	4.00	1.30	0.225	5.85			
		2	4.00	1.70	0.225	3.06			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		3	2.40	1.30	0.225	2.11			
		2	1.60	1.00	0.225	0.72			
	Bloom Moon Garden								
		6	3.00	2.00	0.225	8.10			
		5	3.50	1.50	0.225	5.91			
		5	3.00	2.00	0.225	6.75			
		3	2.00	1.60	0.225	2.16			
		5	3.50	1.50	0.225	5.91			
		5	3.50	1.50	0.225	5.91			
		5	3.00	2.00	0.225	6.75			
		8	5.00	2.00	0.225	18.00			
		7	7.00	2.00	0.225	22.05			
		6	3.00	2.00	0.225	8.10			
		7	7.00	2.00	0.225	22.05			
		6	3.00	2.00	0.225	8.10			
		4	5.00	2.00	0.225	9.00			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
	Ramanna Garden								
		12	2.50	2.00	0.225	13.50			
		9	5.20	1.80	0.225	18.95			
		2	4.00	1.70	0.225	3.06			
		6	6.00	1.50	0.225	12.15			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
		7	5.00	1.90	0.225	14.96			
		5	4.00	1.30	0.225	5.85			
		2	4.00	1.70	0.225	3.06			
		7	5.00	1.90	0.225	14.96			
		5	4.00	1.30	0.225	5.85			
		2	4.00	1.70	0.225	3.06			
		5	3.50	1.50	0.225	5.91			
		5	3.50	1.50	0.225	5.91			
		5	3.00	2.00	0.225	6.75			
		8	5.00	2.00	0.225	18.00			
		7	7.00	2.00	0.225	22.05			
		6	3.00	2.00	0.225	8.10			
		4	5.00	2.00	0.225	9.00			
		3	4.00	1.90	0.225	5.13			
	Kempegowda Layout								
		5	3.50	1.50	0.225	5.91			
		5	3.00	2.00	0.225	6.75			
		6	5.00	2.00	0.225	13.50			
		7	5.00	2.00	0.225	15.75			
						2823.93	**Cum**	**2633.40**	**7436537.26**

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
17	Providing and applying **primer coat** with SS1 grade Bitumen Emulsion on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90 kg per m2 using mechanical means. (V-III, P.No-29,I No-5.1(i) of PWD SR 2021-22).								
	Basic Rate	**44.00**							
	Area Weightage 10%	4.40							
	Total Rate	**48.40**							
	Ward No-07								
	Asphalt Road								
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	2.00		280.00			
	New Asphalt Road								
	GKVK Layout								
	Ravi Gowda Layout	1	256.00	5.40		1382.40			
	Edge Correction/ Damage Portion/Bad reaches								
	Chiranjeevi Layout								
		6	4.00	2.00		48.00			
		4	6.00	1.00		24.00			
		3	2.00	1.20		7.20			
		3	1.50	1.20		5.40			
		5	2.00	1.20		12.00			
	Muniswamy Gowda Layout								
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		4	1.50	1.20		7.20			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		5	2.00	1.20		12.00			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		4	1.50	1.20		7.20			
		6	1.50	1.20		10.80			
	Veeranpalya								
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		4	1.50	1.20		7.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		5	2.00	1.20		12.00			
		8	4.00	1.60		51.20			
	Jai Ram Layout								
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		4	1.50	1.20		7.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
	GKVK Layout								
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		4	1.50	1.20		7.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		5	2.00	1.20		12.00			
						2595.00			
	Ward No-08								
	Edge Correction/ Damage Portion/Bad reaches								
	Tata Nagar								
	1st Main Rd								
		4	6.00	1.00		24.00			
		3	2.00	1.20		7.20			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		5	4.00	1.60		32.00			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		5	4.00	1.60		32.00			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		6	1.50	1.20		10.80			
	B-w Road								
		4	6.00	1.00		24.00			
		3	2.00	1.20		7.20			
		3	1.50	1.20		5.40			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Sapthagiri Hall Road								
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		4	6.00	1.00		24.00			
		3	2.00	1.20		7.20			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		5	4.00	1.60		32.00			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
	1st Cross Kote Badavane								
		3	1.50	1.20		5.40			
		4	1.50	1.20		7.20			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		5	2.00	1.20		12.00			
	2nd Cross Kote Badavane								
		3	1.50	1.20		5.40			
		4	1.50	1.20		7.20			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		5	4.00	1.60		32.00			
	3rd Cross Kote Badavane								
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		5	4.00	1.60		32.00			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		4	6.00	1.00		24.00			
	Cut Portion								
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	1.00		239.00			
	6th Cross Rd	1	141.00	0.50		70.50			
	6th Cross Rd Continue	1	62.00	0.40		24.80			
	6th A Cross Rd	1	164.00	0.70		114.80			
	Cross Rd	1	200.00	0.80		160.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	1.20		450.00			
	1st Cross Rd	1	100.00	0.90		90.00			
	2nd Cross Rd	1	100.00	1.10		110.00			
	3rd Cross Rd	1	67.00	0.60		40.20			
						1891.10			
	Sarovara Layout								
	New Asphalt Road								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Sarovara Main Road[Near Impact Clg]	1	178.00	6.20		1103.60			
	Edge Correction/ Damage Portion/Bad reaches								
	Shantivana Layout								
	1st Cross Rd	1	410.00	2.50		1025.00			
	Sarovara Layout								
	1st Main Road	1	291.00	3.50		1018.50			
	1st Cross Rd	1	52.00	0.70		36.40			
	2nd Cross Rd	1	53.00	0.90		47.70			
	Sarovara Main Road[Near Impact Clg] Continue	1	204.50	0.80		163.60			
						3394.80			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	130.00	5.90		767.00			
	Edge Correction/ Damage Portion/Bad reaches								
	Shyanbhog Narayanappa Layout								
		6	4.00	2.00		48.00			
		4	6.00	1.00		24.00			
		3	2.00	1.20		7.20			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		5	4.00	1.60		32.00			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		6	1.50	1.20		10.80			
	Cut Portion								
	1st Cross Rd	1	151.00	0.60		90.60			
	JR Rd	1	140.00	0.60		84.00			
	Cross Rd	1	175.00	0.60		105.00			
	Balaji Layout								
	7th Cross Rd	1	235.00	1.00		235.00			
						1505.80			
	Ward No-10								
	Asphalt Road								
	For Profile correction								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	6.80		2080.80			
	3rd Cross Rd	1	182.00	5.80		1055.60			
	4th Cross Rd	1	122.50	6.70		820.75			
	5th Cross Rd	1	333.00	6.70		2231.10			
	Tindi Mane Rd	1	135.00	7.20		972.00			
	1st Main Rd	1	223.00	6.40		1427.20			
	2nd Main Rd	1	219.00	6.50		1423.50			
	3rd Main Rd	1	217.00	6.20		1345.40			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	4th Main Rd	1	299.50	6.00		1797.00			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	5.60		1201.20			
	2nd Cross Rd	1	199.00	5.90		1174.10			
	3rd Cross Rd	1	201.50	5.80		1168.70			
	Samsidh MLZS Rd	1	207.00	6.00		1242.00			
	4th Cross Rd	1	50.00	6.00		300.00			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	5.40		294.30			
	1st Cross Rd	1	115.00	5.40		621.00			
	2nd Cross Rd	1	50.00	4.80		240.00			
	3rd Cross Rd	1	76.00	5.50		418.00			
	Ramanna Garden								
	2nd Main Rd	1	141.00	6.50		916.50			
	1st Cross Rd	1	239.00	5.70		1362.30			
	2nd Cross Rd	1	155.00	5.90		914.50			
	3rd Cross Rd	1	155.00	6.20		961.00			
	1st A Main Rd	1	88.00	6.70		589.60			
	5th Cross Rd	1	103.50	5.60		579.60			
	1st Main Rd	1	207.00	5.40		1117.80			
	Kempegowda Layout								
	R.R School Behind	1	59.50	5.80		345.10			
	B/w Rd	1	22.00	4.40		96.80			
	1st Main Rd	1	93.00	6.00		558.00			
						27253.85			
	Profile correction 15%					4088.08			
	Edge Correctin/ Damage Portion/Bad reaches								
	Ward No-10								
	2nd Block BEL Layout								
		10	5.00	2.00		100.00			
		8	3.00	1.80		43.20			
		6	6.00	1.50		54.00			
		3	3.50	2.00		21.00			
		9	6.00	1.50		81.00			
		4	3.00	2.00		24.00			
		7	5.00	1.90		66.50			
		6	6.00	1.50		54.00			
		3	3.50	2.00		21.00			
		9	6.00	1.50		81.00			
		4	3.00	2.00		24.00			
		7	5.00	1.90		66.50			
		5	4.00	1.30		26.00			
		2	4.00	1.70		13.60			
		5	3.50	1.50		26.25			
		5	4.00	1.30		26.00			
		2	4.00	1.70		13.60			
		5	3.50	1.50		26.25			
		5	3.00	2.00		30.00			
		3	2.00	1.60		9.60			
	Bloom Field Garden								
		15	3.00	1.80		81.00			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		4	5.00	2.00		40.00			
		3	4.00	1.90		22.80			
	Kempegowda Layout								
		5	3.50	1.50		26.25			
		5	3.00	2.00		30.00			
		6	5.00	2.00		60.00			
		7	5.00	2.00		70.00			
						7252.18			
						16638.88	**Sqm**	**48.40**	**805321.67**
18	Providing and applying **tack coat** with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.20 kg/m2 on the prepared bituminous surface cleaned with mechanical broom.(V-III, P.No-29,I No-5.3(i) of PWD SR 2021-22).								
	Basic Rate	**12.00**							
	Area Weightage 10%	1.20							
	Total Rate	**13.20**							
	Ward No-07								
	Asphalt Road								
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	2.00		280.00			
	New Asphalt Road								
	GKVK Layout								
	Ravi Gowda Layout	1	256.00	5.40		1382.40			
						1662.40			
	For Profile correction								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	1	222.50	6.60		1468.50			
	3rd Cross Rd	1	52.00	4.70		244.40			
	Muniswamy Gowda Layout								
	1st A Cross Rd	1	35.00	3.60		126.00			
	2nd Cross Rd Sunshine Apartment	1	67.50	5.60		378.00			
	1st Cross Rd	1	80.00	4.90		392.00			
	Veeranpalya								
	6th Cross Rd	1	120.00	5.50		660.00			
	United core Rd	1	115.00	5.40		621.00			
	Cross Rd	1	119.50	4.60		549.70			
	5th Cross Rd	1	115.00	4.70		540.50			
	4th Cross Rd	1	234.00	6.50		1521.00			
	Thala Cauvery Layout								
	Dr.Rajkumar Rd	1	110.00	5.70		627.00			
	2nd A Cross Rd	1	109.50	5.20		569.40			
	2nd Cross Rd	1	109.50	5.20		569.40			
	1st Main Rd	1	217.00	7.70		1670.90			
	2nd B Cross Rd	1	40.00	5.50		220.00			
	GKVK Layout								
	Main Road	1	203.50	6.50		1322.75			
	Jai Ram Layout								
	Main Road	1	120.50	6.70		807.35			
	1st Cross Rd	1	68.00	6.00		408.00			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Anagha Dental Care	1	69.00	6.50		448.50			
						13144.40			
	Consider 15%					1971.66			
	For BC								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	1	222.50	6.60		1468.50			
	3rd Cross Rd	1	52.00	4.70		244.40			
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	4.90		686.00			
	1st A Cross Rd	1	35.00	3.60		126.00			
	2nd Cross Rd Sunshine Apartment	1	67.50	5.60		378.00			
	1st Cross Rd	1	80.00	4.90		392.00			
	Veeranpalya								
	6th Cross Rd	1	120.00	5.50		660.00			
	United core Rd	1	115.00	5.40		621.00			
	Cross Rd	1	119.50	4.60		549.70			
	5th Cross Rd	1	115.00	4.70		540.50			
	4th Cross Rd	1	234.00	6.50		1521.00			
	Thala Cauvery Layout								
	Dr.Rajkumar Rd	1	110.00	5.70		627.00			
	2nd A Cross Rd	1	109.50	5.20		569.40			
	2nd Cross Rd	1	109.50	5.20		569.40			
	1st Main Rd	1	217.00	7.70		1670.90			
	2nd B Cross Rd	1	40.00	5.50		220.00			
	GKVK Layout								
	Main Road	1	203.50	6.50		1322.75			
	Ravi Gowda Layout	1	256.00	5.40		1382.40			
	Jai Ram Layout								
	Main Road	1	120.50	6.70		807.35			
	1st Cross Rd	1	68.00	6.00		408.00			
	Anagha Dental Care	1	69.00	6.50		448.50			
						15212.80			
						18846.86			
	Ward No-08								
	Tata Nagar								
	For Profile correction								
	1st Main Rd	1	194.00	8.00		1552.00			
	B-w Road	1	50.00	6.50		325.00			
	Sapthagiri Hall Road	1	225.50	5.40		1217.70			
	1st Cross Kote Badavane	1	70.00	4.50		315.00			
	2nd Cross Kote Badavane	1	70.00	4.30		301.00			
	3rd Cross Kote Badavane	1	110.00	4.70		517.00			
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	6.00		1434.00			
	6th Cross Rd	1	141.00	5.60		789.60			
	6th Cross Rd Continue	1	62.00	7.00		434.00			
	6th A Cross Rd	1	164.00	4.50		738.00			
	Cross Rd	1	200.00	5.50		1100.00			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Muneshwara Layout								
	1st Main Road	1	375.00	5.90		2212.50			
	1st Cross Rd	1	100.00	4.70		470.00			
	2nd Cross Rd	1	100.00	4.70		470.00			
	3rd Cross Rd	1	67.00	4.30		288.10			
						12163.90			
	Consider 15%					1824.59			
	For BC								
	Tata Nagar								
	1st Main Rd	1	194.00	8.50		1649.00			
	B-w Road	1	50.00	6.50		325.00			
	Sapthagiri Hall Road	1	225.50	5.40		1217.70			
	3rd Cross Kote Badavane	1	110.00	4.70		517.00			
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	6.00		1434.00			
	6th Cross Rd	1	141.00	5.60		789.60			
	6th Cross Rd Continue	1	62.00	7.00		434.00			
	6th A Cross Rd	1	164.00	4.50		738.00			
	Cross Rd	1	200.00	5.50		1100.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	5.90		2212.50			
	1st Cross Rd	1	100.00	4.70		470.00			
	2nd Cross Rd	1	100.00	4.70		470.00			
	3rd Cross Rd	1	67.00	4.30		288.10			
						13469.49			
	Sarovara Layout								
	Shantivana Layout								
	1st Cross Rd	1	410.00	6.80		2788.00			
	Sarovara Layout								
	1st Main Road	1	291.00	6.30		1833.30			
	1st Cross Rd	1	52.00	5.80		301.60			
	2nd Cross Rd	1	53.00	5.40		286.20			
	Sarovara Main Road[Near Impact Clg] Continue	1	382.50	6.20		2371.50			
						7580.60			
	For Profile correction								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd Continue	1	154.00	5.80		893.20			
	1st Cross Rd	1	151.00	6.20		936.20			
	JR Rd	1	140.00	5.80		812.00			
	Cross Rd	1	175.00	5.80		1015.00			
	Balaji Layout								
	7th Cross Rd	1	235.00	6.00		1410.00			
						5066.40			
	Consider 10%					506.64			
	For BC								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	284.00	5.80		1647.20			
	1st Cross Rd	1	151.00	6.20		936.20			
	JR Rd	1	140.00	5.80		812.00			
	Cross Rd	1	175.00	5.80		1015.00			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Balaji Layout								
	7th Cross Rd	1	235.00	6.00		1410.00			
						6327.04			
	Ward No-10								
	Asphalt Road								
	For Profile correction								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	6.80		2080.80			
	3rd Cross Rd	1	182.00	5.80		1055.60			
	4th Cross Rd	1	122.50	6.70		820.75			
	5th Cross Rd	1	333.00	6.70		2231.10			
	Tindi Mane Rd	1	135.00	7.20		972.00			
	1st Main Rd	1	223.00	6.40		1427.20			
	2nd Main Rd	1	219.00	6.50		1423.50			
	3rd Main Rd	1	217.00	6.20		1345.40			
	4th Main Rd	1	299.50	6.00		1797.00			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	5.60		1201.20			
	2nd Cross Rd	1	199.00	5.90		1174.10			
	3rd Cross Rd	1	201.50	5.80		1168.70			
	Samsidh MLZS Rd	1	207.00	6.00		1242.00			
	4th Cross Rd	1	50.00	6.00		300.00			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	5.40		294.30			
	1st Cross Rd	1	115.00	5.40		621.00			
	2nd Cross Rd	1	50.00	4.80		240.00			
	3rd Cross Rd	1	76.00	5.50		418.00			
	Ramanna Garden								
	2nd Main Rd	1	141.00	6.50		916.50			
	1st Cross Rd	1	239.00	5.70		1362.30			
	2nd Cross Rd	1	155.00	5.90		914.50			
	3rd Cross Rd	1	155.00	6.20		961.00			
	1st A Main Rd	1	88.00	6.70		589.60			
	5th Cross Rd	1	103.50	5.60		579.60			
	1st Main Rd	1	207.00	5.40		1117.80			
	Kempegowda Layout								
	R.R School Behind	1	59.50	5.80		345.10			
	B/w Rd	1	22.00	4.40		96.80			
	1st Main Rd	1	93.00	6.00		558.00			
						27253.85			
	Consider 15%					4088.08			
	For BC								
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	6.80		2080.80			
	3rd Cross Rd	1	182.00	5.80		1055.60			
	4th Cross Rd	1	122.50	6.70		820.75			
	5th Cross Rd	1	333.00	6.70		2231.10			
	Tindi Mane Rd	1	135.00	7.20		972.00			
	1st Main Rd	1	223.00	6.40		1427.20			
	2nd Main Rd	1	219.00	6.50		1423.50			
	3rd Main Rd	1	217.00	6.20		1345.40			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	4th Main Rd	1	299.50	6.00		1797.00			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	5.60		1201.20			
	2nd Cross Rd	1	199.00	5.90		1174.10			
	3rd Cross Rd	1	201.50	5.80		1168.70			
	Samsidh MLZS Rd	1	207.00	6.00		1242.00			
	4th Cross Rd	1	50.00	6.00		300.00			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	5.40		294.30			
	1st Cross Rd	1	115.00	5.40		621.00			
	2nd Cross Rd	1	50.00	4.80		240.00			
	3rd Cross Rd	1	76.00	5.50		418.00			
	Ramanna Garden								
	2nd Main Rd	1	141.00	6.50		916.50			
	1st Cross Rd	1	239.00	5.70		1362.30			
	2nd Cross Rd	1	155.00	5.90		914.50			
	3rd Cross Rd	1	155.00	6.20		961.00			
	1st A Main Rd	1	88.00	6.70		589.60			
	5th Cross Rd	1	103.50	5.60		579.60			
	1st Main Rd	1	207.00	5.40		1117.80			
	Kempegowda Layout								
	R.R School Behind	1	59.50	5.80		345.10			
	B/w Rd	1	22.00	4.40		96.80			
	1st Main Rd	1	93.00	6.00		558.00			
						31341.93			
						77565.91	**Sqm**	**13.20**	**1023870.05**
19	Providing and laying **Dense Graded Bituminous Macadam** with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects. (V-III, P.No-33,I No-5.12C of PWD SR 2021-22).								
	Basic Rate	**9889.00**							
	Area Weightage 10%	988.90							
	Total Rate	**10877.90**							
	Ward No-07								
	Asphalt Road								
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	2.00	0.05	14.00			
	New Asphalt Road								
	GKVK Layout								
	Ravi Gowda Layout	1	256.00	5.40	0.05	69.12			
						83.12			
	For Profile correction								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	1	222.50	6.60	0.05	73.43			
	3rd Cross Rd	1	52.00	4.70	0.05	12.22			
	Muniswamy Gowda Layout								
	1st A Cross Rd	1	35.00	3.60	0.05	6.30			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	2nd Cross Rd Sunshine Apartment	1	67.50	5.60	0.05	18.90			
	1st Cross Rd	1	80.00	4.90	0.05	19.60			
	Veeranpalya								
	6th Cross Rd	1	120.00	5.50	0.05	33.00			
	United core Rd	1	115.00	5.40	0.05	31.05			
	Cross Rd	1	119.50	4.60	0.05	27.49			
	5th Cross Rd	1	115.00	4.70	0.05	27.03			
	4th Cross Rd	1	234.00	6.50	0.05	76.05			
	Thala Cauvery Layout								
	Dr.Rajkumar Rd	1	110.00	5.70	0.05	31.35			
	2nd A Cross Rd	1	109.50	5.20	0.05	28.47			
	2nd Cross Rd	1	109.50	5.20	0.05	28.47			
	1st Main Rd	1	217.00	7.70	0.05	83.55			
	2nd B Cross Rd	1	40.00	5.50	0.05	11.00			
	GKVK Layout								
	Main Road	1	203.50	6.50	0.05	66.14			
	Jai Ram Layout								
	Main Road	1	120.50	6.70	0.05	40.37			
	1st Cross Rd	1	68.00	6.00	0.05	20.40			
	Anagha Dental Care	1	69.00	6.50	0.05	22.43			
						657.22			
	Profile correction 15%					98.58			
	Edge Correction/ Damage Portion/Bad reaches								
	Chiranjeevi Layout								
		6	4.00	2.00	0.05	2.40			
		4	6.00	1.00	0.05	1.20			
		3	2.00	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
	Muniswamy Gowda Layout								
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		4	1.50	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		5	2.00	1.20	0.05	0.60			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		3	1.50	1.20	0.05	0.27			
		4	1.50	1.20	0.05	0.36			
		6	1.50	1.20	0.05	0.54			
	Veeranpalya								
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		4	1.50	1.20	0.05	0.36			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		5	2.00	1.20	0.05	0.60			
		8	4.00	1.60	0.05	2.56			
	Jai Ram Layout								
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		4	1.50	1.20	0.05	0.36			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
	GKVK Layout								
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		4	1.50	1.20	0.05	0.36			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		5	2.00	1.20	0.05	0.60			
						49.19			
						230.89			
	Ward No-08								
	Tata Nagar								
	For Profile correction								
	1st Main Rd	1	194.00	8.00	0.05	77.60			
	B-w Road	1	50.00	6.50	0.05	16.25			
	Sapthagiri Hall Road	1	225.50	5.40	0.05	60.89			
	1st Cross Kote Badavane	1	70.00	4.50	0.05	15.75			
	2nd Cross Kote Badavane	1	70.00	4.30	0.05	15.05			
	3rd Cross Kote Badavane	1	110.00	4.70	0.05	25.85			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	6.00	0.05	71.70			
	6th Cross Rd	1	141.00	5.60	0.05	39.48			
	6th Cross Rd Continue	1	62.00	7.00	0.05	21.70			
	6th A Cross Rd	1	164.00	4.50	0.05	36.90			
	Cross Rd	1	200.00	5.50	0.05	55.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	5.90	0.05	110.63			
	1st Cross Rd	1	100.00	4.70	0.05	23.50			
	2nd Cross Rd	1	100.00	4.70	0.05	23.50			
	3rd Cross Rd	1	67.00	4.30	0.05	14.41			
						211.39			
	Profile correction 20%					42.28			
	Edge Correction/ Damage Portion/Bad reaches								
	Tata Nagar								
	1st Main Rd								
		4	6.00	1.00	0.05	1.20			
		3	2.00	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		5	4.00	1.60	0.05	1.60			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		5	4.00	1.60	0.05	1.60			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		6	1.50	1.20	0.05	0.54			
	B-w Road								
		4	6.00	1.00	0.05	1.20			
		3	2.00	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
	Sapthagiri Hall Road								
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		4	6.00	1.00	0.05	1.20			
		3	2.00	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		5	4.00	1.60	0.05	1.60			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
	1st Cross Kote Badavane								
		3	1.50	1.20	0.05	0.27			
		4	1.50	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		3	1.50	1.20	0.05	0.27			
		5	2.00	1.20	0.05	0.60			
	2nd Cross Kote Badavane								
		3	1.50	1.20	0.05	0.27			
		4	1.50	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		5	4.00	1.60	0.05	1.60			
	3rd Cross Kote Badavane								
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		5	4.00	1.60	0.05	1.60			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		4	6.00	1.00	0.05	1.20			
	Cut Portion								
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	1.00	0.05	11.95			
	6th Cross Rd	1	141.00	0.50	0.05	3.53			
	6th Cross Rd Continue	1	62.00	0.40	0.05	1.24			
	6th A Cross Rd	1	164.00	0.70	0.05	5.74			
	Cross Rd	1	200.00	0.80	0.05	8.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	1.20	0.05	22.50			
	1st Cross Rd	1	100.00	0.90	0.05	4.50			
	2nd Cross Rd	1	100.00	1.10	0.05	5.50			
	3rd Cross Rd	1	67.00	0.60	0.05	2.01			
						136.83			
	Sarovara Layout								
	New Asphalt Road								
	Sarovara Main Road[Near Impact Clg]	1	178.00	6.20	0.05	55.18			
	Edge Correction/ Damage Portion/Bad reaches								
	Shantivana Layout								
	1st Cross Rd	1	410.00	2.50	0.05	51.25			
	Sarovara Layout								
	1st Main Road	1	291.00	3.50	0.05	50.93			
	1st Cross Rd	1	52.00	0.70	0.05	1.82			
	2nd Cross Rd	1	53.00	0.90	0.05	2.39			
	Sarovara Main Road[Near Impact Clg] Continue	1	204.50	0.80	0.05	8.18			
						169.74			
	New Asphalt Road								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	130.00	5.90	0.05	38.35			
	For Profile correction								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Shyanbhog Narayanappa Layout								
	2nd Main Rd Continue	1	154.00	5.80	0.05	44.66			
	1st Cross Rd	1	151.00	6.20	0.05	46.81			
	JR Rd	1	140.00	5.80	0.05	40.60			
	Cross Rd	1	175.00	5.80	0.05	50.75			
	Balaji Layout								
	7th Cross Rd	1	235.00	6.00	0.05	70.50			
						253.32			
	Profile correction 10%					25.33			
	Edge Correction/ Damage Portion/Bad reaches								
	Shyanbhog Narayanappa Layout								
		6	4.00	2.00	0.05	2.40			
		4	6.00	1.00	0.05	1.20			
		3	2.00	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		5	4.00	1.60	0.05	1.60			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		6	1.50	1.20	0.05	0.54			
	Cut Portion								
	1st Cross Rd	1	151.00	0.60	0.05	4.53			
	JR Rd	1	140.00	0.60	0.05	4.20			
	Cross Rd	1	175.00	0.60	0.05	5.25			
	Balaji Layout								
	7th Cross Rd	1	235.00	1.00	0.05	11.75			
						36.94			
						100.62			
	Ward No-10								
	Asphalt Road								
	For Profile correction								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	6.80	0.05	104.04			
	3rd Cross Rd	1	182.00	5.80	0.05	52.78			
	4th Cross Rd	1	122.50	6.70	0.05	41.04			
	5th Cross Rd	1	333.00	6.70	0.05	111.56			
	Tindi Mane Rd	1	135.00	7.20	0.05	48.60			
	1st Main Rd	1	223.00	6.40	0.05	71.36			
	2nd Main Rd	1	219.00	6.50	0.05	71.18			
	3rd Main Rd	1	217.00	6.20	0.05	67.27			
	4th Main Rd	1	299.50	6.00	0.05	89.85			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	5.60	0.05	60.06			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	2nd Cross Rd	1	199.00	5.90	0.05	58.71			
	3rd Cross Rd	1	201.50	5.80	0.05	58.44			
	Samsidh MLZS Rd	1	207.00	6.00	0.05	62.10			
	4th Cross Rd	1	50.00	6.00	0.05	15.00			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	5.40	0.05	14.72			
	1st Cross Rd	1	115.00	5.40	0.05	31.05			
	2nd Cross Rd	1	50.00	4.80	0.05	12.00			
	3rd Cross Rd	1	76.00	5.50	0.05	20.90			
	Ramanna Garden								
	2nd Main Rd	1	141.00	6.50	0.05	45.83			
	1st Cross Rd	1	239.00	5.70	0.05	68.12			
	2nd Cross Rd	1	155.00	5.90	0.05	45.73			
	3rd Cross Rd	1	155.00	6.20	0.05	48.05			
	1st A Main Rd	1	88.00	6.70	0.05	29.48			
	5th Cross Rd	1	103.50	5.60	0.05	28.98			
	1st Main Rd	1	207.00	5.40	0.05	55.89			
	Kempegowda Layout								
	R.R School Behind	1	59.50	5.80	0.05	17.26			
	B/w Rd	1	22.00	4.40	0.05	4.84			
	1st Main Rd	1	93.00	6.00	0.05	27.90			
						1362.69			
	Profile correction 15%					204.40			
	Edge Correctin/ Damage Portion/Bad reaches								
	Ward No-10								
	2nd Block BEL Layout								
		10	5.00	2.00	0.05	5.00			
		8	3.00	1.80	0.05	2.16			
		6	6.00	1.50	0.05	2.70			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
		7	5.00	1.90	0.05	3.33			
		6	6.00	1.50	0.05	2.70			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
		7	5.00	1.90	0.05	3.33			
		5	4.00	1.30	0.05	1.30			
		2	4.00	1.70	0.05	0.68			
		5	3.50	1.50	0.05	1.31			
		5	4.00	1.30	0.05	1.30			
		2	4.00	1.70	0.05	0.68			
		5	3.50	1.50	0.05	1.31			
		5	3.00	2.00	0.05	1.50			
		3	2.00	1.60	0.05	0.48			
	Bloom Field Garden								
		15	3.00	1.80	0.05	4.05			
		7	2.00	1.50	0.05	1.05			
		4	3.50	1.00	0.05	0.70			
		7	5.00	1.90	0.05	3.33			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		6	3.00	2.00	0.05	1.80			
		4	5.00	2.00	0.05	2.00			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
		5	4.00	1.30	0.05	1.30			
		2	4.00	1.70	0.05	0.68			
		3	2.40	1.30	0.05	0.47			
		2	1.60	1.00	0.05	0.16			
	Bloom Moon Garden								
		6	3.00	2.00	0.05	1.80			
		5	3.50	1.50	0.05	1.31			
		5	3.00	2.00	0.05	1.50			
		3	2.00	1.60	0.05	0.48			
		5	3.50	1.50	0.05	1.31			
		5	3.50	1.50	0.05	1.31			
		5	3.00	2.00	0.05	1.50			
		8	5.00	2.00	0.05	4.00			
		7	7.00	2.00	0.05	4.90			
		6	3.00	2.00	0.05	1.80			
		7	7.00	2.00	0.05	4.90			
		6	3.00	2.00	0.05	1.80			
		4	5.00	2.00	0.05	2.00			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
	Ramanna Garden								
		12	2.50	2.00	0.05	3.00			
		9	5.20	1.80	0.05	4.21			
		2	4.00	1.70	0.05	0.68			
		6	6.00	1.50	0.05	2.70			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
		7	5.00	1.90	0.05	3.33			
		5	4.00	1.30	0.05	1.30			
		2	4.00	1.70	0.05	0.68			
		7	5.00	1.90	0.05	3.33			
		5	4.00	1.30	0.05	1.30			
		2	4.00	1.70	0.05	0.68			
		5	3.50	1.50	0.05	1.31			
		5	3.50	1.50	0.05	1.31			
		5	3.00	2.00	0.05	1.50			
		8	5.00	2.00	0.05	4.00			
		7	7.00	2.00	0.05	4.90			
		6	3.00	2.00	0.05	1.80			
		4	5.00	2.00	0.05	2.00			
		3	4.00	1.90	0.05	1.14			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Kempegowda Layout								
		5	3.50	1.50	0.05	1.31			
		5	3.00	2.00	0.05	1.50			
		6	5.00	2.00	0.05	3.00			
		7	5.00	2.00	0.05	3.50			
						362.61			
						1000.70	**Cum**	**10877.90**	**10885469.66**
20	Providing and laying **Bituminous Concrete with 40/60 TPH** capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects (V-III, P.No.36, I.No.5.16C of PWD SR 2021-22).								
	Basic Rate	**11531.00**							
	Area Weightage 10%	1153.10							
	Total Rate	**12684.10**							
	Ward No-07								
	Asphalt Road								
	For BC								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	1	222.50	6.60	0.04	58.74			
	3rd Cross Rd	1	52.00	4.70	0.04	9.78			
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	4.90	0.04	27.44			
	1st A Cross Rd	1	35.00	3.60	0.04	5.04			
	2nd Cross Rd Sunshine Apartment	1	67.50	5.60	0.04	15.12			
	1st Cross Rd	1	80.00	4.90	0.04	15.68			
	Veeranpalya								
	6th Cross Rd	1	120.00	5.50	0.04	26.40			
	United core Rd	1	115.00	5.40	0.04	24.84			
	Cross Rd	1	119.50	4.60	0.04	21.99			
	5th Cross Rd	1	115.00	4.70	0.04	21.62			
	4th Cross Rd	1	234.00	6.50	0.04	60.84			
	Thala Cauvery Layout								
	Dr.Rajkumar Rd	1	110.00	5.70	0.04	25.08			
	2nd A Cross Rd	1	109.50	5.20	0.04	22.78			
	2nd Cross Rd	1	109.50	5.20	0.04	22.78			
	1st Main Rd	1	217.00	7.70	0.04	66.84			
	2nd B Cross Rd	1	40.00	5.50	0.04	8.80			
	GKVK Layout								
	Main Road	1	203.50	6.50	0.04	52.91			
	Ravi Gowda Layout	1	256.00	5.40	0.04	55.30			
	Jai Ram Layout								
	Main Road	1	120.50	6.70	0.04	32.29			
	1st Cross Rd	1	68.00	6.00	0.04	16.32			
	Anagha Dental Care	1	69.00	6.50	0.04	17.94			
	Ward No-08								
	Tata Nagar								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	1st Main Rd	1	194.00	8.00	0.04	62.08			
	B-w Road	1	50.00	6.50	0.04	13.00			
	Sapthagiri Hall Road	1	225.50	5.40	0.04	48.71			
	1st Cross Kote Badavane	1	70.00	4.50	0.04	12.60			
	2nd Cross Kote Badavane	1	70.00	4.30	0.04	12.04			
	3rd Cross Kote Badavane	1	110.00	4.70	0.04	20.68			
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	6.00	0.04	57.36			
	6th Cross Rd	1	141.00	5.60	0.04	31.58			
	6th Cross Rd Continue	1	62.00	7.00	0.04	17.36			
	6th A Cross Rd	1	164.00	4.50	0.04	29.52			
	Cross Rd	1	200.00	5.50	0.04	44.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	5.90	0.04	88.50			
	1st Cross Rd	1	100.00	4.70	0.04	18.80			
	2nd Cross Rd	1	100.00	4.70	0.04	18.80			
	3rd Cross Rd	1	67.00	4.30	0.04	11.52			
	Shantivana Layout								
	1st Cross Rd	1	410.00	6.80	0.04	111.52			
	Sarovara Layout								
	1st Main Road	1	291.00	6.30	0.04	73.33			
	1st Cross Rd	1	52.00	5.80	0.04	12.06			
	2nd Cross Rd	1	53.00	5.40	0.04	11.45			
	Sarovara Main Road[Near Impact Clg] Continue	1	382.50	6.20	0.04	94.86			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	284.00	5.80	0.04	65.89			
	1st Cross Rd	1	151.00	6.20	0.04	37.45			
	JR Rd	1	140.00	5.80	0.04	32.48			
	Cross Rd	1	175.00	5.80	0.04	40.60			
	Balaji Layout								
	7th Cross Rd	1	235.00	6.00	0.04	56.40			
	Ward No-10								
	Asphalt Road								
	For BC								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	6.80	0.04	83.23			
	3rd Cross Rd	1	182.00	5.80	0.04	42.22			
	4th Cross Rd	1	122.50	6.70	0.04	32.83			
	5th Cross Rd	1	333.00	6.70	0.04	89.24			
	Tindi Mane Rd	1	135.00	7.20	0.04	38.88			
	1st Main Rd	1	223.00	6.40	0.04	57.09			
	2nd Main Rd	1	219.00	6.50	0.04	56.94			
	3rd Main Rd	1	217.00	6.20	0.04	53.82			
	4th Main Rd	1	299.50	6.00	0.04	71.88			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	5.60	0.04	48.05			
	2nd Cross Rd	1	199.00	5.90	0.04	46.96			
	3rd Cross Rd	1	201.50	5.80	0.04	46.75			
	Samsidh MLZS Rd	1	207.00	6.00	0.04	49.68			
	4th Cross Rd	1	50.00	6.00	0.04	12.00			
	Bloom Moon Garden								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	1st Main Rd	1	54.50	5.40	0.04	11.77			
	1st Cross Rd	1	115.00	5.40	0.04	24.84			
	2nd Cross Rd	1	50.00	4.80	0.04	9.60			
	3rd Cross Rd	1	76.00	5.50	0.04	16.72			
	Ramanna Garden								
	2nd Main Rd	1	141.00	6.50	0.04	36.66			
	1st Cross Rd	1	239.00	5.70	0.04	54.49			
	2nd Cross Rd	1	155.00	5.90	0.04	36.58			
	3rd Cross Rd	1	155.00	6.20	0.04	38.44			
	1st A Main Rd	1	88.00	6.70	0.04	23.58			
	5th Cross Rd	1	103.50	5.60	0.04	23.18			
	1st Main Rd	1	207.00	5.40	0.04	44.71			
	Kempegowda Layout								
	R.R School Behind	1	59.50	5.80	0.04	13.80			
	B/w Rd	1	22.00	4.40	0.04	3.87			
	1st Main Rd	1	93.00	6.00	0.04	22.32			
						2721.26	**Cum**	**12684.10**	**34516759.33**
21	Providing and laying of **hot applied thermoplastic compound** 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes.(V-III,I No-8.15, P.No-57 of KPWD SR 2021-22)								
	Basic Rate	**478.00**							
	Area Weightage 10%	47.80							
	Total Rate	**525.80**							
	Asphalt Road								
	Ward No-07								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	2	222.50	0.10		44.50			
	3rd Cross Rd	2	52.00	0.10		10.40			
	Muniswamy Gowda Layout								
	Near Century Apartment	2	140.00	0.10		28.00			
	1st A Cross Rd	2	35.00	0.10		7.00			
	2nd Cross Rd Sunshine Apartment	2	67.50	0.10		13.50			
	1st Cross Rd	2	80.00	0.10		16.00			
	Veeranpalya								
	6th Cross Rd	2	120.00	0.10		24.00			
	United core Rd	2	115.00	0.10		23.00			
	Cross Rd	2	119.50	0.10		23.90			
	5th Cross Rd	2	115.00	0.10		23.00			
	4th Cross Rd	2	234.00	0.10		46.80			
	Thala Cauvery Layout								
	Dr.Rajkumar Rd	2	110.00	0.10		22.00			
	2nd A Cross Rd	2	109.50	0.10		21.90			
	2nd Cross Rd	2	109.50	0.10		21.90			
	1st Main Rd	2	217.00	0.10		43.40			
	2nd B Cross Rd	2	40.00	0.10		8.00			
	GKVK Layout								
	Main Road	2	203.50	0.10		40.70			
	Ravi Gowda Layout	2	256.00	0.10		51.20			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Jai Ram Layout								
	Main Road	2	120.50	0.10		24.10			
	1st Cross Rd	2	68.00	0.10		13.60			
	Anagha Dental Care	2	69.00	0.10		13.80			
	Ward No-08								
	Tata Nagar								
	1st Main Rd	2	194.00	0.10		38.80			
	B-w Road	2	50.00	0.10		10.00			
	Sapthagiri Hall Road	2	225.50	0.10		45.10			
	1st Cross Kote Badavane	2	65.00	0.10		13.00			
	2nd Cross Kote Badavane	2	60.00	0.10		12.00			
	3rd Cross Kote Badavane	2	110.00	0.10		22.00			
	Devi Nagara								
	Devi Nagara Main Rd	2	239.00	0.10		47.80			
	6th Cross Rd	2	141.00	0.10		28.20			
	6th Cross Rd Continue	2	62.00	0.10		12.40			
	6th A Cross Rd	2	164.00	0.10		32.80			
	Muneshwara Layout								
	1st Main Road	2	375.00	0.10		75.00			
	1st Cross Rd	2	100.00	0.10		20.00			
	2nd Cross Rd	2	100.00	0.10		20.00			
	3rd Cross Rd	2	67.00	0.10		13.40			
	Shantivana Layout								
	1st Cross Rd	2	410.00	0.10		82.00			
	Sarovara Layout								
	1st Main Road	2	291.00	0.10		58.20			
	1st Cross Rd	2	52.00	0.10		10.40			
	2nd Cross Rd	2	53.00	0.10		10.60			
	Sarovara Main Road[Near Impact Clg] Continue	2	382.50	0.10		76.50			
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	284.00	0.10		56.80			
	1st Cross Rd	2	151.00	0.10		30.20			
	JR Rd	2	140.00	0.10		28.00			
	Cross Rd	2	175.00	0.10		35.00			
	Balaji Layout								
	7th Cross Rd	2	235.00	0.10		47.00			
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	2	306.00	0.10		61.20			
	3rd Cross Rd	2	182.00	0.10		36.40			
	4th Cross Rd	2	122.50	0.10		24.50			
	5th Cross Rd	2	333.00	0.10		66.60			
	Tindi Mane Rd	2	135.00	0.10		27.00			
	1st Main Rd	2	223.00	0.10		44.60			
	2nd Main Rd	2	219.00	0.10		43.80			
	3rd Main Rd	2	217.00	0.10		43.40			
	4th Main Rd	2	299.50	0.10		59.90			
	Bloom Field Garden								
	1st Cross Rd	2	214.50	0.10		42.90			
	2nd Cross Rd	2	199.00	0.10		39.80			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	3rd Cross Rd	2	201.50	0.10		40.30			
	Samsidh MLZS Rd	2	207.00	0.10		41.40			
	4th Cross Rd	2	50.00	0.10		10.00			
	Bloom Moon Garden								
	1st Main Rd	2	54.50	0.10		10.90			
	1st Cross Rd	2	115.00	0.10		23.00			
	2nd Cross Rd	2	50.00	0.10		10.00			
	3rd Cross Rd	2	76.00	0.10		15.20			
	Ramanna Garden								
	2nd Main Rd	2	141.00	0.10		28.20			
	1st Cross Rd	2	239.00	0.10		47.80			
	2nd Cross Rd	2	155.00	0.10		31.00			
	3rd Cross Rd	2	155.00	0.10		31.00			
	1st A Main Rd	2	88.00	0.10		17.60			
	5th Cross Rd	2	103.50	0.10		20.70			
	1st Main Rd	2	207.00	0.10		41.40			
	Kempegowda Layout								
	R.R School Behind	2	59.50	0.10		11.90			
	B/w Rd	2	22.00	0.10		4.40			
	1st Main Rd	2	93.00	0.10		18.60			
						2239.40	**Sqm**	**525.80**	**1177476.52**
22	Dismantling of **cement concrete pavement** by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 m3 in volume and stock piling at designated locations and disposal of dismantled materials and stacking serviceable and unserviceable materials separatel (V-III Page No.10, Item No.2.19 of PWD SR 2021-22)								
	Basic Rate	**422.00**							
	Area Weightage 10%	42.20							
	Total Rate	**464.20**							
	C.C road								
	Kempegowda Layout								
	R.R School Behind Continue	1	30.00	3.30	0.25	24.75			
	Byrappa Garden								
	1st Cross Rd	1	50.00	5.00	0.25	62.50			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	1	46.50	5.50	0.25	63.94			
	3rd Cross Rd	1	45.00	5.00	0.25	56.25			
	Left Side 3rd Cross Rd	1	25.00	4.50	0.25	28.13			
	4th Cross Rd	1	59.50	3.80	0.25	56.53			
						292.09			
	Deduct 30% Voids					**87.63**			
						204.46	**Cum**	**464.20**	**94,910.91**
23	Providing and laying in position **plain cement concrete** for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) **Mix 1:5:10** Using 40 mm nominal size graded crushed coarse aggregates(V-I,I No-2.11, P.No-15of KPWD SR 2021-22)								
	Basic Rate	**4976.00**							

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Area Weightage 10%	**497.60**							
	Total Rate	**5473.60**							
	C.C road								
	Kempegowda Layout								
	R.R School Behind Continue	1	30.00	3.30	0.15	14.85			
	Byrappa Garden								
	1st Cross Rd	1	50.00	5.00	0.15	37.50			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	1	46.50	5.50	0.15	38.36			
	3rd Cross Rd	1	45.00	5.00	0.15	33.75			
	Left Side 3rd Cross Rd	1	25.00	4.50	0.15	16.88			
	4th Cross Rd	1	59.50	3.80	0.15	33.92			
						175.25	**Cum**	**5473.60**	**959262.08**
24	Providing and constructing un-reinforced **plain cement concrete pavement**, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 **M30 (Grade)** coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including construction joints, , primer, sealant , curing of concrete slabs for 14- days, and water finishing to lines and grade as per drawing and technical specification clause 1501 with all lead, lifts, loading & unloading charges, cost and conveyance of all materials, labour, equipments etc., complete. as per the directions of the Engineer-in-charge of the work.(V-III, P.No-138,I No-20.29, KPWD SR 2021-22).								
	Basic Rate	**6837.00**							
	Area Weightage 10%	**683.70**							
	Total Rate	**7520.70**							
	C.C road								
	Kempegowda Layout								
	R.R School Behind Continue	1	30.00	3.30	0.15	14.85			
	Byrappa Garden								
	1st Cross Rd	1	50.00	5.00	0.15	37.50			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	1	46.50	5.50	0.15	38.36			
	3rd Cross Rd	1	45.00	5.00	0.15	33.75			
	Left Side 3rd Cross Rd	1	25.00	4.50	0.15	16.88			
	4th Cross Rd	1	59.50	3.80	0.15	33.92			
						175.25	**Cum**	**7520.70**	**1318021.48**
25	Cost of Haulage Excluding Loading and Unloading Taking output 25 t load and lead 10 km = 250 t.km (V-III Page No.3, Item No.1.4C of PWD SR 2021-22)								
	Basic Rate	**5.00**							
	8KM Lead = 12*8	96.00							
	Area Weightage 10%	9.60							
	Total Rate	**105.60**							
	Qty frm Item No-2		5214.6	1.28		6674.63			
	Qty frm Item No-14		3137.7	1.28		4016.26			
	Qty frm Item No-22		204.5	2.10		429.37			
						11120.25	**t.Km**	**105.60**	**1174298.59**

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
								Total Construction Cost	96272735.10
								Sub Total-1	96272735.10
								12% GST for Construction Cost	11552728.21
								Towards DPR & PMC Cost including GST	2173300.00
								Sub Total -2	109998763.31
								Utility Shifting,Miscellaneous and Rounding off	1,236.69
	GRAND TOTAL								110000000.00

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2021-2022, Data rates and issue rates dated 07-04-2022

Assistant Engineer
BBMP Bangalore

Asst. Executive Engineer,
BBMP Bangalore

Executive Engineer,
BBMP Bangalore

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

ADMINISTRATIVE APPROVAL

Accorded For Rs. 1100.00 Lakhs only

Head of A/c. P3877 Amritha Nalagatla

Div. Ref No. 31/22-23 Date 14/10/22

AE EE(BTP)

Technical Sanction
Accorded For Rs 1100.00 Lakhs only
Head of A/C..P.....
CER NO :35..... Dt:01.07.2022

SIL CONSULTING ENGINEERS

Bruhat Bangalore Mahanagara Palike
Executive Engineer Bytarayanapura Division

Name of Work:PACKAGE NO-03 (Consists of 5 Works)

Draft Tender Schedule

Item No.	Description	Unit	Quantity	Rate, Rs	
				In Figures	In Words
1	Removing and resetting Stone Slab of drain and pointing in C.M (1:3) (Approved Rate)	Sqm	4199.07	133.10	Rupees One Hundred Thirty Three And Paise Ten Only
2	Removing and Resetting of Footpath Slab and pointing in C.M (1:3) (Approved Rate)	Sqm	3181.31	258.50	Rupees Two Hundred Fifty Eight And Paise Fifty Only
3	Earth work excavation by manual means for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 5.5 m3)	Cum	5214.55	334.40	Rupees Three Hundred Thirty Four And Paise Forty Only
4	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) Mix 1:3:6 (M10) Using 40 mm nominal size graded crushed coarse aggregates	Cum	723.80	6327.20	Rupees Six Thousand Three Hundred Twenty Seven And Paise Twenty Only
5	Supplying, Fitting and Placing un-coated TMT bar Reinforcement in sub-structure complete as per Drawing and Technical Specifications.	Tn	68.14	113661.90	Rupees One Lakh(s) Thirteen Thousand Six Hundred Sixty One And Paise Ninety Only
6	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	Cum	1027.69	7225.68	Rupees Seven Thousand Two Hundred Twenty Five And Paise Sixty Eight Only
7	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. Mix 1:3:6 (M10) Using 20 mm nominal size graded crushed coarse aggregates	Cum	100.03	6518.60	Rupees Six Thousand Five Hundred Eighteen And Paise Sixty Only
8	Providing and constructing load bearing wall with Solid Concrete blocks of size 400x150x200mm having block density more than 1800kg/m3 and minimum compressive strength of 4.00 N/mm2 conforming to IS 2185 (Part - I) - 2005 and constructed with CM 1:4 as per IS 2572:2005 including cost of all materials, labour, scaffolding and curing, usage charges of machinery etc complete as per specifications.	Sqm	370.00	1173.70	Rupees One Thousand One Hundred Seventy Three And Paise Seventy Only
9	Providing and fixing precast reinforced cement concrete covering slabs of 10Cm thick made of M20 with OPC cement,with 20mm and down size graded granite metal coarse aggregate @0.70 mixed, Inculding providing and removing centering, shuttering, strutting propping etc., for edges of slabs with TMT steel (Fe500) cost of all materials, labour, all lead and lift, HOM of machinery, curing, including cost of reinforcement etc., complete as directed by the Engineer in charge of the work	Sqm	3479.69	2072.00	Rupees Two Thousand Seventy Two Only

Item No.	Description	Unit	Quantity	Rate, Rs	
				In Figures	In Words
10	Providing and fixing RCC precast cover slab of 230mm thick for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)	Sqm	510.24	5037.00	Rupees Five Thousand Thirty Seven Only
11	Providing B S slabs of selected quality roughly dressed having a size of 10 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete. as directed by the Engineer in Charge of the work (excluding GST and Area Leading Charges)	Sqm	1013.03	920.70	Rupees Nine Hundred Twenty And Paise Seventy Only
12	Providing and fixing pre cast solid cement concrete kerb stones made out of M20 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete as directed by the Engineer in Charge of the work (Approved Rate)	Nos	3295.00	507.00	Rupees Five Hundred Seven Only
13	Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces	Sqm	736.40	93.50	Rupees Ninety Three And Paise Fifty Only
14	Earth work in surface excavation by mechanical means for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work (	Cum	3137.70	71.50	Rupees Seventy One And Paise Fifty Only
15	Construction of Embankment by excavating the available approved Gravel/Murrum deposited at a place or borrow pits during or prior excavation with all lifts and lead, transportation to site, spreading, grading to required slope and compacting to meet the requirement complete as per specifications, including cost of labour,rolling,water,all materials,usage& all other appurtenaces required to complete the work	Cum	549.99	442.20	Rupees Four Hundred Forty Two And Paise Twenty Only
16	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density	Cum	2823.93	2633.40	Rupees Two Thousand Six Hundred Thirty Three And Paise Forty Only
17	Providing and applying primer coat with SS1 grade Bitumen Emulsion on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90 kg per m2 using mechanical means.	Sqm	16638.88	48.40	Rupees Forty Eight And Paise Forty Only
18	Providing and applying tack coat with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.20 kg/m2 on the prepared bituminous surface cleaned with mechanical broom	Sqm	77565.91	13.20	Rupees Thirteen And Paise Twenty Only
19	Providing and laying Dense Graded Bituminous Macadam with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects.	Cum	1000.70	10877.90	Rupees Ten Thousand Eight Hundred Seventy Seven And Paise Ninety Only
20	Providing and laying Bituminous Concrete with 40/60 TPH capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects	Cum	2721.26	12684.10	Rupees Twelve Thousand Six Hundred Eighty Four And Paise Ten Only
21	Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes.	Sqm	2239.40	525.80	Rupees Five Hundred Twenty Five And Paise Eighty Only

Item No.	Description	Unit	Quantity	Rate, Rs	
				In Figures	In Words
22	Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 m3 in volume and stock piling at designated locations and disposal of dismantled materials and stacking serviceable and unserviceable materials separatel	Cum	204.46	464.20	Rupees Four Hundred Sixty Four And Paise Twenty Only
23	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) Mix 1:5:10 Using 40 mm nominal size graded crushed coarse aggregates	Cum	175.25	5473.60	Rupees Five Thousand Four Hundred Seventy Three And Paise Sixty Only
24	Providing and constructing un-reinforced plain cement concrete pavement, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including construction joints, , primer, sealant , curing of concrete slabs for 14- days, and water finishing to lines and grade as per drawing and technical specification clause 1501 with all lead, lifts, loading & unloading charges, cost and conveyance of all materials, labour, equipments etc., complete. as per the directions of the Engineer-in-charge of the work.	Cum	175.25	7520.70	Rupees Seven Thousand Five Hundred Twenty And Paise Seventy Only
25	Cost of Haulage Excluding Loading and Unloading Taking output 25 t load and lead 10 km = 250 t.km	T.km	11120.25	105.60	Rupees One Hundred Five And Paise Sixty Only

Executive Engineer,
Bytarayanapura Division
BBMP Bangalore

ಮುಖ್ಯ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

SILICON CONSULTING ENGINEERS

Bruhat Bangalore Mahanagara Palike
Executive Engineer Bytarayanapura Division
Name of Work:Improvements To Roads and Drains In Chiranjeevi Layout And Surrounding Area in Ward No-07 Byatarayanapura

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
1	Removing and resetting Stone Slab of drain and pointing in C.M (1:3) (Approved Rate)								
	Approved Rate	**121.00**							
	Area Weightage 10%	**12.10**							
	Total	**133.10**							
		Sqm							
	Ward No-07								
	Bottom Slab								
	Chiranjeevi Layout								
	2nd Cross Rd	2	51.00	1.65		168.30			
	Neerabhavi ,Kemmanna Layout	2	125.00	1.65		412.50			
	Muniswamy Gowda Layout								
	1st A Cross Rd	2	35.00	1.65		115.50			
	1st B CrosS Rd	2	34.50	1.65		113.85			
	1st C Cross Rd	2	34.50	1.65		113.85			
						924.00			
	Consider 60%					554.40			
	Deduct 20% Missing/Damaged Slab					110.88			
						443.52	**Sqm**	**133.10**	**59,032.51**
2	Removing and Resetting of Footpath Slab and pointing in C.M (1:3) (Approved Rate)								
	Approved Rate	**235.00**							
	Area Weightage 10%	**23.50**							
	Total	**258.50**							
		Sqm							
	Ward No-07								
	Top Slab								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	2	200.00	0.90		360.00			
	Veeranpalya								
	6th Cross Rd	1	120.00	0.90		108.00			
	5th Cross Rd	1	115.00	0.90		103.50			
	4th Cross Rd	2	230.00	0.90		414.00			
						985.50			
	Consider 60%					591.30			
	Deduct 30% Missing/Damaged Slab					177.39			
						413.91	**Sqm**	**258.50**	**106995.74**
3	**Earth work excavation by manual means** for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 5.5 m3) (V-I.No 1.4,Page No-5 PWD SR 2021-22)								
	Basic Rate	186.00							
	Loading And Unloading	118.00							
	Sub Total	304.00							

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Area Weightage 10%	30.40							
	Total Rate	**334.40**							
	Ward No-07								
	Rcc Drain								
	Veeranpalya								
	6th Cross Rd	1	110.00	1.00	1.10	121.00			
	United core Rd	2	115.00	1.00	1.15	264.50			
	For Culverts	8	6.00	1.50	1.15	82.80			
	Drain Desilt								
	Chiranjeevi Layout								
	Neerabhavi ,Kemmanna Layout	2	125.00	0.45	0.45	50.63			
						518.93	**Cum**	**334.40**	**173528.52**
4	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) **Mix 1:3:6 (M10) Using 40 mm** nominal size graded crushed coarse aggregates (V-1, P.No-15, I No-2.1.3 of PWD SR 2021-22)								
	Basic Rate	**5752.00**							
	Area Weightage 10%	**575.20**							
	Total Rate	**6327.20**							
	Ward No-07								
	Rcc Drain								
	Veeranpalya								
	6th Cross Rd	1	110.00	1.00	0.15	16.50			
	United core Rd	2	115.00	1.00	0.15	34.50			
	For Culverts	8	6.00	1.50	0.15	10.80			
						61.80	**Cum**	**6327.20**	**391020.96**
5	Supplying, **Fitting and Placing un-coated TMT bar** Reinforcement in sub-structure complete as per Drawing and Technical Specifications.(V-III, I.No 13.1 Page No 99, PWD SR 2021-22)								
	Basic Rate	**103329.00**							
	Area Weightage 10%	**10332.90**							
	Total Rate	**113661.90**							
	For RCC Drain , 60kg/Sqm	1	102.00	60.00		6120.00			
	For RCC Culvert, 90kg/Sqm	1	24.77	90.00		2229.12			
						8.35	**Tn**	**113661.90**	**948976.84**
6	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) **M20 Design Mix Using 20 mm nominal** size graded crushed coarse aggregates (V-1,P.No.17, I.No.2.4.2 of PWD SR 2021-22)								
	Basic Rate	**6256.00**							
	5% for Centring	**312.80**							
	Sub Total	**6568.80**							
	Area Weightage 10%	**656.88**							
	Total Rate	**7225.68**							
	Ward No-07								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Rcc Drain Raft								
	Veeranpalya								
	6th Cross Rd	1	110.00	0.80	0.15	13.20			
	United core Rd	2	115.00	0.80	0.15	27.60			
	Rcc Drain Wall								
	Veeranpalya								
	6th Cross Rd	2	110.00	0.15	0.60	19.80			
	United core Rd	4	115.00	0.15	0.60	41.40			
						102.00			
	Culvert Raft								
		8	6.00	1.20	0.20	11.52			
	Culvert Wall								
		16	6.00	0.23	0.60	13.25			
						24.77			
						126.77	**Cum**	**7225.68**	**915985.00**
7	Providing and laying in position **plain cement concrete** for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. **Mix 1:3:6 (M10) Using 20 mm** nominal size graded crushed coarse aggregates (V-I, No-2.1.4, P.No-15 of PWD SR 2021-22).								
	Basic rate	**5926.00**							
	Area Weightage 10%	**592.60**							
	Total	**6518.60**							
	Ward No-07	**Cum**							
	Flagging Course PCC								
	Chiranjeevi Layout								
	2nd Cross Rd	4	51.00	0.20	0.10	4.08			
	Neerabhavi ,Kemmanna Layout	4	125.00	0.20	0.10	10.00			
	Muniswamy Gowda Layout								
	1st A Cross Rd	4	35.00	0.20	0.10	2.80			
	1st B CrosS Rd	4	34.50	0.20	0.10	2.76			
	Flagging Course Coping								
	2nd Cross Rd	4	51.00	0.15	0.10	3.06			
	Neerabhavi ,Kemmanna Layout	4	125.00	0.15	0.10	7.50			
	Muniswamy Gowda Layout								
	1st A Cross Rd	4	35.00	0.15	0.10	2.10			
	1st B CrosS Rd	4	34.50	0.15	0.10	2.07			
						34.37	**Cum**	**6518.60**	**224044.28**
8	Providing and constructing load bearing wall with **Solid Concrete blocks** of size 400x150x200mm having block density more than 1800kg/m3 and minimum compressive strength of 4.00 N/mm2 conforming to IS 2185 (Part - I) - 2005 and constructed with CM 1:4 as per IS 2572:2005 including cost of all materials, labour, scaffolding and curing, usage charges of machinery etc complete as per specifications. (V-2, No-6.33, P.No-17 of PWD SR 2021-22).								
	Basic rate	**1067.00**							
	Area Weightage 10%	**106.70**							
	Total	**1173.70**							
	Ward No-07								
	Flagging Course	**Sqm**							
	Chiranjeevi Layout								
	2nd Cross Rd	4	51.00		0.20	40.80			
	Neerabhavi ,Kemmanna Layout	4	125.00		0.20	100.00			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Muniswamy Gowda Layout								
	1st A Cross Rd	4	35.00		0.20	28.00			
	1st B CrosS Rd	4	34.50		0.20	27.60			
						196.40	**Sqm**	**1173.70**	**230514.68**
9	Providing and fixing **precast reinforced cement concrete covering slabs of 10Cm thick** made of M20 with OPC cement,with 20mm and down size graded granite metal coarse aggregate @0.70 mixed, Inculding providing and removing centering, shuttering, strutting propping etc., for edges of slabs with TMT steel (Fe500) cost of all materials, labour, all lead and lift, HOM of machinery, curing, including cost of reinforcement etc., complete as directed by the Engineer in charge of the work								
	Data Rate	**2072.00**							
	Ward No-07								
	Chiranjeevi Layout								
	2nd Cross Rd	2	51.00	0.75		76.50			
	Neerabhavi ,Kemmanna Layout	2	125.00	0.90		225.00			
	Muniswamy Gowda Layout								
	1st A Cross Rd	2	35.00	0.75		52.50			
	1st B CrosS Rd	2	34.50	0.75		51.75			
	Veeranpalya								
	6th Cross Rd	1	110.00	0.75		82.50			
	United core Rd	2	115.00	0.75		172.50			
	Add Missing/Damaged Slab					177.39			
						838.14			
	Deduct 20% Bs Slab					167.63			
						670.51	**Sqm**	**2072.00**	**1389300.86**
10	Providing and fixing **RCC precast cover slab of 230mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data Rate	**5037.00**							
	For Culverts								
		8	6.00	1.20		57.60			
						57.60	**Sqm**	**5037.00**	**290131.20**
11	Providing **B S slabs of selected quality roughly dressed having a size of 10 cms** thick and fixed in cement mortar (1:6) including fixing curing ete., complete. as directed by the Engineer in Charge of the work (excluding GST and Area Leading Charges)								
	Approved rate	**837.00**							
	Area Weightage 10%	**83.70**							
	Total	**920.70**							
	Top 20% Slab					167.63			
						167.63	**Sqm**	**920.70**	**154335.10**
12	Earth work in surface **excavation by mechanical means** for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work ((V-I, P.No-8, I No-1.12 of PWD SR 2021-22)								
	Basic Rate	**65.00**							
	Area Weightage 10%	6.50							
	Total Rate	**71.50**							
	Ward No-07								

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Asphalt Road								
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	2.00	0.25	70.00			
	New Asphalt Road								
	GKVK Layout								
	Ravi Gowda Layout	1	256.00	5.40	0.25	345.60			
	Edge Correction/ Damage Portion/Bad reaches								
	Chiranjeevi Layout								
		6	4.00	2.00	0.25	12.00			
		4	6.00	1.00	0.25	6.00			
		3	2.00	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		5	2.00	1.20	0.25	3.00			
	Muniswamy Gowda Layout								
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		4	1.50	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		5	2.00	1.20	0.25	3.00			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		4	1.50	1.20	0.25	1.80			
		6	1.50	1.20	0.25	2.70			
	Veeranpalya								
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		4	1.50	1.20	0.25	1.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		8	4.00	1.60	0.25	12.80			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		5	2.00	1.20	0.25	3.00			
		8	4.00	1.60	0.25	12.80			
	Jai Ram Layout								
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		4	1.50	1.20	0.25	1.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
	GKVK Layout								
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		4	1.50	1.20	0.25	1.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		5	2.00	1.20	0.25	3.00			
						648.75	**Cum**	**71.50**	**46,385.63**
13	Providing, laying, spreading and compacting graded stone aggregate to **wet mix macadam** specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density (V-III, P.No-24,I No-4.27A)of PWD SR 2021-22).								
	Basic Rate	**2394.00**							
	Area Weightage 10%	239.40							
	Total Rate	**2633.40**							
	Ward No-07								
	Asphalt Road								
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	2.00	0.225	63.00			
	New Asphalt Road								
	GKVK Layout								
	Ravi Gowda Layout	1	256.00	5.40	0.225	311.04			
	Edge Correction/ Damage Portion/Bad reaches								
	Chiranjeevi Layout								
		6	4.00	2.00	0.225	10.80			
		4	6.00	1.00	0.225	5.40			
		3	2.00	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		5	2.00	1.20	0.225	2.70			
	Muniswamy Gowda Layout								
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		4	1.50	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		5	2.00	1.20	0.225	2.70			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		4	1.50	1.20	0.225	1.62			
		6	1.50	1.20	0.225	2.43			
	Veeranpalya								
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		4	1.50	1.20	0.225	1.62			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		5	2.00	1.20	0.225	2.70			
		8	4.00	1.60	0.225	11.52			
	Jai Ram Layout								
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		4	1.50	1.20	0.225	1.62			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
	GKVK Layout								
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		4	1.50	1.20	0.225	1.62			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		5	2.00	1.20	0.225	2.70			
						583.88	**Cum**	**2633.40**	**1537576.43**

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
4	Providing and applying **primer coat** with SS1 grade Bitumen Emulsion on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90 kg per m2 using mechanical means. (V-III, P.No-29,I No-5.1(i) of PWD SR 2021-22).								
	Basic Rate	**44.00**							
	Area Weightage 10%	4.40							
	Total Rate	**48.40**							
	Ward No-07								
	Asphalt Road								
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	2.00		280.00			
	New Asphalt Road								
	GKVK Layout								
	Ravi Gowda Layout	1	256.00	5.40		1382.40			
	Edge Correction/ Damage Portion/Bad reaches								
	Chiranjeevi Layout								
		6	4.00	2.00		48.00			
		4	6.00	1.00		24.00			
		3	2.00	1.20		7.20			
		3	1.50	1.20		5.40			
		5	2.00	1.20		12.00			
	Muniswamy Gowda Layout								
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		4	1.50	1.20		7.20			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		5	2.00	1.20		12.00			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		4	1.50	1.20		7.20			
		6	1.50	1.20		10.80			
	Veeranpalya								
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		4	1.50	1.20		7.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		5	2.00	1.20		12.00			
		8	4.00	1.60		51.20			
	Jai Ram Layout								
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		4	1.50	1.20		7.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
	GKVK Layout								
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		4	1.50	1.20		7.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		5	2.00	1.20		12.00			
						2595.00	**Sqm**	**48.40**	**125598.00**
15	Providing and applying **tack coat** with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.20 kg/m2 on the prepared bituminous surface cleaned with mechanical broom.(V-III, P.No-29,I No-5.3(i) of PWD SR 2021-22).								
	Basic Rate	**12.00**							
	Area Weightage 10%	1.20							
	Total Rate	**13.20**							
	Ward No-07								
	Asphalt Road								
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	2.00		280.00			
	New Asphalt Road								
	GKVK Layout								
	Ravi Gowda Layout	1	256.00	5.40		1382.40			
						1662.40			
	For Profile correction								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	1	222.50	6.60		1468.50			
	3rd Cross Rd	1	52.00	4.70		244.40			
	Muniswamy Gowda Layout								
	1st A Cross Rd	1	35.00	3.60		126.00			
	2nd Cross Rd Sunshine Apartment	1	67.50	5.60		378.00			
	1st Cross Rd	1	80.00	4.90		392.00			
	Veeranpalya								

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	6th Cross Rd	1	120.00	5.50		660.00			
	United core Rd	1	115.00	5.40		621.00			
	Cross Rd	1	119.50	4.60		549.70			
	5th Cross Rd	1	115.00	4.70		540.50			
	4th Cross Rd	1	234.00	6.50		1521.00			
	Thala Cauvery Layout								
	Dr.Rajkumar Rd	1	110.00	5.70		627.00			
	2nd A Cross Rd	1	109.50	5.20		569.40			
	2nd Cross Rd	1	109.50	5.20		569.40			
	1st Main Rd	1	217.00	7.70		1670.90			
	2nd B Cross Rd	1	40.00	5.50		220.00			
	GKVK Layout								
	Main Road	1	203.50	6.50		1322.75			
	Jai Ram Layout								
	Main Road	1	120.50	6.70		807.35			
	1st Cross Rd	1	68.00	6.00		408.00			
	Anagha Dental Care	1	69.00	6.50		448.50			
						13144.40			
	Consider 15%					**1971.66**			
	For BC								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	1	222.50	6.60		1468.50			
	3rd Cross Rd	1	52.00	4.70		244.40			
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	4.90		686.00			
	1st A Cross Rd	1	35.00	3.60		126.00			
	2nd Cross Rd Sunshine Apartment	1	67.50	5.60		378.00			
	1st Cross Rd	1	80.00	4.90		392.00			
	Veeranpalya								
	6th Cross Rd	1	120.00	5.50		660.00			
	United core Rd	1	115.00	5.40		621.00			
	Cross Rd	1	119.50	4.60		549.70			
	5th Cross Rd	1	115.00	4.70		540.50			
	4th Cross Rd	1	234.00	6.50		1521.00			
	Thala Cauvery Layout								
	Dr.Rajkumar Rd	1	110.00	5.70		627.00			
	2nd A Cross Rd	1	109.50	5.20		569.40			
	2nd Cross Rd	1	109.50	5.20		569.40			
	1st Main Rd	1	217.00	7.70		1670.90			
	2nd B Cross Rd	1	40.00	5.50		220.00			
	GKVK Layout								
	Main Road	1	203.50	6.50		1322.75			
	Ravi Gowda Layout	1	256.00	5.40		1382.40			
	Jai Ram Layout								
	Main Road	1	120.50	6.70		807.35			
	1st Cross Rd	1	68.00	6.00		408.00			
	Anagha Dental Care	1	69.00	6.50		448.50			
						15212.80			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
						18846.86	**Sqm**	**13.20**	**248778.55**
16	Providing and laying **Dense Graded Bituminous Macadam** with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects. (V-III, P.No-33,I No-5.12C of PWD SR 2021-22).								
	Basic Rate	**9889.00**							
	Area Weightage 10%	988.90							
	Total Rate	**10877.90**							
	Ward No-07								
	Asphalt Road								
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	2.00	0.05	14.00			
	New Asphalt Road								
	GKVK Layout								
	Ravi Gowda Layout	1	256.00	5.40	0.05	69.12			
						83.12			
	For Profile correction								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	1	222.50	6.60	0.05	73.43			
	3rd Cross Rd	1	52.00	4.70	0.05	12.22			
	Muniswamy Gowda Layout								
	1st A Cross Rd	1	35.00	3.60	0.05	6.30			
	2nd Cross Rd Sunshine Apartment	1	67.50	5.60	0.05	18.90			
	1st Cross Rd	1	80.00	4.90	0.05	19.60			
	Veeranpalya								
	6th Cross Rd	1	120.00	5.50	0.05	33.00			
	United core Rd	1	115.00	5.40	0.05	31.05			
	Cross Rd	1	119.50	4.60	0.05	27.49			
	5th Cross Rd	1	115.00	4.70	0.05	27.03			
	4th Cross Rd	1	234.00	6.50	0.05	76.05			
	Thala Cauvery Layout								
	Dr.Rajkumar Rd	1	110.00	5.70	0.05	31.35			
	2nd A Cross Rd	1	109.50	5.20	0.05	28.47			
	2nd Cross Rd	1	109.50	5.20	0.05	28.47			
	1st Main Rd	1	217.00	7.70	0.05	83.55			
	2nd B Cross Rd	1	40.00	5.50	0.05	11.00			
	GKVK Layout								
	Main Road	1	203.50	6.50	0.05	66.14			
	Jai Ram Layout								
	Main Road	1	120.50	6.70	0.05	40.37			
	1st Cross Rd	1	68.00	6.00	0.05	20.40			
	Anagha Dental Care	1	69.00	6.50	0.05	22.43			
						657.22			
	Profile correction 15%					**98.58**			
	Edge Correction/ Damage Portion/Bad reaches								
	Chiranjeevi Layout								
		6	4.00	2.00	0.05	2.40			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		4	6.00	1.00	0.05	1.20			
		3	2.00	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
	Muniswamy Gowda Layout								
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		4	1.50	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		5	2.00	1.20	0.05	0.60			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		4	1.50	1.20	0.05	0.36			
		6	1.50	1.20	0.05	0.54			
	Veeranpalya								
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		4	1.50	1.20	0.05	0.36			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		5	2.00	1.20	0.05	0.60			
		8	4.00	1.60	0.05	2.56			
	Jai Ram Layout								
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		4	1.50	1.20	0.05	0.36			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
	GKVK Layout								
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		4	1.50	1.20	0.05	0.36			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		5	2.00	1.20	0.05	0.60			
						49.19			
						230.89	**Cum**	**10877.90**	**2511630.96**
7	Providing and laying **Bituminous Concrete with 40/60 TPH** capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects (V-III, P.No.36, I.No.5.16C of PWD SR 2021-22).								
	Basic Rate	**11531.00**							
	Area Weightage 10%	1153.10							
	Total Rate	**12684.10**							
	Ward No-07								
	Asphalt Road								
	For BC								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	1	222.50	6.60	0.04	58.74			
	3rd Cross Rd	1	52.00	4.70	0.04	9.78			
	Muniswamy Gowda Layout								
	Near Century Apartment	1	140.00	4.90	0.04	27.44			
	1st A Cross Rd	1	35.00	3.60	0.04	5.04			
	2nd Cross Rd Sunshine Apartment	1	67.50	5.60	0.04	15.12			
	1st Cross Rd	1	80.00	4.90	0.04	15.68			
	Veeranpalya								
	6th Cross Rd	1	120.00	5.50	0.04	26.40			
	United core Rd	1	115.00	5.40	0.04	24.84			
	Cross Rd	1	119.50	4.60	0.04	21.99			
	5th Cross Rd	1	115.00	4.70	0.04	21.62			
	4th Cross Rd	1	234.00	6.50	0.04	60.84			
	Thala Cauvery Layout								
	Dr.Rajkumar Rd	1	110.00	5.70	0.04	25.08			
	2nd A Cross Rd	1	109.50	5.20	0.04	22.78			
	2nd Cross Rd	1	109.50	5.20	0.04	22.78			
	1st Main Rd	1	217.00	7.70	0.04	66.84			
	2nd B Cross Rd	1	40.00	5.50	0.04	8.80			
	GKVK Layout								
	Main Road	1	203.50	6.50	0.04	52.91			
	Ravi Gowda Layout	1	256.00	5.40	0.04	55.30			
	Jai Ram Layout								
	Main Road	1	120.50	6.70	0.04	32.29			
	1st Cross Rd	1	68.00	6.00	0.04	16.32			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Anagha Dental Care	1	69.00	6.50	0.04	17.94			
						608.51	**Cum**	**12684.10**	**7718427.06**
18	Providing and laying of **hot applied thermoplastic compound** 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes.(V-III,I No-8.15, P.No-57 of KPWD SR 2021-22)								
	Basic Rate	**478.00**							
	Area Weightage 10%	47.80							
	Total Rate	**525.80**							
	Ward No-07								
	Asphalt Road								
	Chiranjeevi Layout								
	3rd Crs Near Vidyanikethan School	2	222.50	0.10		44.50			
	3rd Cross Rd	2	52.00	0.10		10.40			
	Muniswamy Gowda Layout								
	Near Century Apartment	2	140.00	0.10		28.00			
	1st A Cross Rd	2	35.00	0.10		7.00			
	2nd Cross Rd Sunshine Apartment	2	67.50	0.10		13.50			
	1st Cross Rd	2	80.00	0.10		16.00			
	Veeranpalya								
	6th Cross Rd	2	120.00	0.10		24.00			
	United core Rd	2	115.00	0.10		23.00			
	Cross Rd	2	119.50	0.10		23.90			
	5th Cross Rd	2	115.00	0.10		23.00			
	4th Cross Rd	2	234.00	0.10		46.80			
	Thala Cauvery Layout								
	Dr.Rajkumar Rd	2	110.00	0.10		22.00			
	2nd A Cross Rd	2	109.50	0.10		21.90			
	2nd Cross Rd	2	109.50	0.10		21.90			
	1st Main Rd	2	217.00	0.10		43.40			
	2nd B Cross Rd	2	40.00	0.10		8.00			
	GKVK Layout								
	Main Road	2	203.50	0.10		40.70			
	Ravi Gowda Layout	2	256.00	0.10		51.20			
	Jai Ram Layout								
	Main Road	2	120.50	0.10		24.10			
	1st Cross Rd	2	68.00	0.10		13.60			
	Anagha Dental Care	2	69.00	0.10		13.80			
						520.70	**Sqm**	**525.80**	**273784.06**
19	Cost of Haulage Excluding Loading and Unloading Taking output 25 t load and lead 10 km = 250 t.km (V-III Page No.3, Item No.1.4C of PWD SR 2021-22)								
	Basic Rate	**5.00**							
	8KM Lead = 12*8	96.00							
	Area Weightage 10%	9.60							
	Total Rate	**105.60**							
	Qty frm Item No-2		518.9	1.28		664.22			
	Qty frm Item No-12		648.8	1.28		830.40			
						1494.62	**t.Km**	**105.60**	**157832.29**

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amoun
								Total Construction Cost	17503878.68
								Sub Total-1	17503878.68
								12% GST for Construction Cost	2100465.44
								Towards DPR & PMC Cost including GST	395300.00
								Sub Total -2	19999644.12
								Utility Shifting,Miscellaneous and Rounding off	355.88
								GRAND TOTAL	20000000.00

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2021-2022, Data rates and issue rates dated 07-04-2022

Assistant Engineer
Ward No-7
BBMP Bangalore

Asst. Executive Engineer,
Kodigehalli Sub Division
BBMP Bangalore

Executive Engineer,
Bytarayanapura Division
BBMP Bangalore

SILICON CONSULTING ENGINEERS

Bruhat Bangalore Mahanagara Palike

Executive Engineer Bytarayanapura Division

Name of Work:Improvements To Roads and Drains Of Tata Nagar And Surrounding Areas In Ward No.08 Kodigehalli

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
1	Removing and resetting Stone Slab of drain and pointing in C.M (1:3) (Approved Rate)								
	Approved Rate	**121.00**							
	Area Weightage 10%	**12.10**							
	Total	**133.10**							
		Sqm							
	Ward No-08								
	Bottom Slab								
	Tata Nagar								
	Bescom Road	1	95.00	1.65		156.75			
	5th Main Road	2	360.00	1.65		1188.00			
	Sapthagiri Road	2	217.00	1.65		716.10			
	4th Main Road	2	310.00	1.65		1023.00			
	6th A Cross rd	1	155.00	1.65		255.75			
	3rd Main Rd	2	112.00	1.65		369.60			
	2nd Main Rd	2	112.00	1.65		369.60			
						4078.80			
	Consider 60%					2447.28			
	Deduct 20% Missing/Damaged Slab					489.46			
						1957.82	**Sqm**	**133.10**	**260586.37**
2	Removing and Resetting of Footpath Slab and pointing in C.M (1:3) (Approved Rate)								
	Approved Rate	**235.00**							
	Area Weightage 10%	**23.50**							
	Total	**258.50**							
		Sqm							
	Ward No-08								
	Top Slab								
	Devi Nagara								
	Devi Nagara Main Rd	2	239.00	0.90		430.20			
	6th Cross Rd	2	141.00	0.90		253.80			
	6th Cross Rd Continue	2	62.00	0.90		111.60			
	6th A Cross Rd	2	164.00	0.90		295.20			
	Muneshwara Layout								
	1st Main Road	2	375.00	0.90		675.00			
						1765.80			
	Consider 60%					1059.48			
	Deduct 25% Missing/Damaged Slab					264.87			
						794.61	**Sqm**	**258.50**	**205406.69**
3	**Earth work excavation by manual means** for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 5.5 m3) (V-I.No 1.4,Page No-5 PWD SR 2021-22)								
	Basic Rate	186.00							

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Loading And Unloading	118.00							
	Sub Total	304.00							
	Area Weightage 10%	30.40							
	Total Rate	**334.40**							
	Ward No-08								
	For Culverts	9	6.40	1.50	1.00	86.40			
	Drain Desilt								
	Tata Nagar								
	Bescom Road	1	95.00	0.45	0.45	19.24			
	5th Main Road	2	360.00	0.45	0.45	145.80			
	Sapthagiri Road	2	217.00	0.45	0.45	87.89			
	4th Main Road	2	310.00	0.45	0.35	97.65			
	6th A Cross rd	1	155.00	0.45	0.45	31.39			
	3rd Main Rd	2	112.00	0.45	0.45	45.36			
	2nd Main Rd	2	112.00	0.45	0.45	45.36			
						559.08	**Cum**	**334.40**	**186956.35**
4	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) **Mix 1:3:6 (M10) Using 40 mm** nominal size graded crushed coarse aggregates (V-1, P.No-15, I No-2.1.3 of PWD SR 2021-22)								
	Basic Rate	**5752.00**							
	Area Weightage 10%	**575.20**							
	Total Rate	**6327.20**							
	Ward No-08								
	For Culverts	9	6.40	1.50	0.15	12.96			
						12.96	**Cum**	**6327.20**	**82,000.51**
5	Supplying, **Fitting and Placing un-coated TMT bar** Reinforcement in sub-structure complete as per Drawing and Technical Specifications.(V-III, I.No 13.1 Page No 99, PWD SR 2021-22)								
	Basic Rate	**103329.00**							
	Area Weightage 10%	**10332.90**							
	Total Rate	**113661.90**							
	For RCC Culvert, 90kg/Sqm	1	29.72	90.00		2674.94			
						2.67	**Tn**	**113661.90**	**304039.22**
6	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) **M20 Design Mix Using 20 mm nominal** size graded crushed coarse aggregates (V-1,P.No.17, I.No.2.4.2 of PWD SR 2021-22)								
	Basic Rate	**6256.00**							
	5% for Centring	**312.80**							
	Sub Total	**6568.80**							
	Area Weightage 10%	**656.88**							
	Total Rate	**7225.68**							
	Ward No-08								
	Culvert Raft								

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		9	6.40	1.20	0.20	13.82			
	Culvert Wall								
		18	6.40	0.23	0.60	15.90			
						29.72	**Cum**	**7225.68**	**214758.77**
7	Providing and laying in position **plain cement concrete** for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. **Mix 1:3:6 (M10) Using 20 mm** nominal size graded crushed coarse aggregates (V-I, No-2.1.4, P.No-15 of PWD SR 2021-22).								
	Basic rate	**5926.00**							
	Area Weightage 10%	**592.60**							
	Total	**6518.60**							
	Ward No-08	**Cum**							
	Flagging Course PCC								
	Tata Nagar								
	Sapthagiri Road	4	217.00	0.20	0.10	17.36			
	Flagging Course Coping								
	Tata Nagar								
	Sapthagiri Road	4	217.00	0.15	0.10	13.02			
	For Below Kerb Stone								
	Tata Nagar								
	Sapthagiri Road	2	217.00	0.20	0.10	8.68			
						39.06	**Cum**	**6518.60**	**254616.52**
8	Providing and constructing load bearing wall with **Solid Concrete blocks** of size 400x150x200mm having block density more than 1800kg/m3 and minimum compressive strength of 4.00 N/mm2 conforming to IS 2185 (Part - I) - 2005 and constructed with CM 1:4 as per IS 2572:2005 including cost of all materials, labour, scaffolding and curing, usage charges of machinery etc complete as per specifications. (V-2, No-6.33, P.No-17 of PWD SR 2021-22).								
	Basic rate	**1067.00**							
	Area Weightage 10%	**106.70**							
	Total	**1173.70**							
	Flagging Course	**Sqm**							
	Tata Nagar								
	Sapthagiri Road	4	217.00		0.20	173.60			
						173.60	**Sqm**	**1173.70**	**203754.32**
9	Providing and fixing **precast reinforced cement concrete covering slabs of 10Cm thick** made of M20 with OPC cement,with 20mm and down size graded granite metal coarse aggregate @0.70 mixed, Inculding providing and removing centering, shuttering, strutting propping etc., for edges of slabs with TMT steel (Fe500) cost of all materials, labour, all lead and lift, HOM of machinery, curing, including cost of reinforcement etc., complete as directed by the Engineer in charge of the work								
	Data Rate	**2072.00**							
	Ward No-08								
	Tata Nagar								
	Sapthagiri Road	2	217.00	0.90		390.60			
						390.60			
	Add Damaged/Missing Slab					322.87			
						713.47			
						713.47			
	Deduct 30% Top Bs Slab					214.04			
						499.43	**Sqm**	**2072.00**	**1034816.89**

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
10	Providing and fixing **RCC precast cover slab of 230mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data Rate	**5037.00**							
	For Culverts								
		9	6.40	1.20		69.12			
						69.12	**Sqm**	**5037.00**	**348157.44**
11	Providing **B S slabs of selected quality roughly dressed having a size of 10 cms** thick and fixed in cement mortar (1:6) including fixing curing ete., complete. as directed by the Engineer in Charge of the work (excluding GST and Area Leading Charges)								
	Approved rate	**837.00**							
	Area Weightage 10%	**83.70**							
	Total	**920.70**							
	Top Slab 30%					214.04			
						214.04	**Sqm**	**920.70**	**197067.55**
12	Providing and fixing pre cast **solid cement concrete kerb stones** made out of M20 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete as directed by the Engineer in Charge of the work (Approved Rate)								
	Approved rate	**507.00**							
	For Kerb Stone								
	Ward No-08								
	Tata Nagar								
	Sapthagiri Road	2	217.00			434.00			
						434.00	M		
	Deduct 20% Existing Kerb					82.46			
						351.54	M		
						781.00	**Nos**	**507.00**	**395967.00**
13	**Painting two coats** after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces (V-III, P.No.56, I.No.8.10 of PW, PWD SR 2021-22)								
	Basic Rate	85.00							
	Area Weightage 10%	8.50							
	Total Rate	**93.50**							
	For Kerb Stone								
	Ward No-08								
	Tata Nagar								
	Sapthagiri Road	2	217.00		0.35	151.90			
						151.90	**Sqm**	**93.50**	**14,202.65**
14	Earth work in surface **excavation by mechanical means** for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work ((V-I, P.No-8, I No-1.12 of PWD SR 2021-22)								
	Basic Rate	**65.00**							
	Area Weightage 10%	6.50							
	Total Rate	**71.50**							
	Ward No-08								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Edge Correction/ Damage Portion/Bad reaches								
	Tata Nagar								
	1st Main Rd								
		4	6.00	1.00	0.25	6.00			
		3	2.00	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		5	4.00	1.60	0.25	8.00			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		5	4.00	1.60	0.25	8.00			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		6	1.50	1.20	0.25	2.70			
	B-w Road								
		4	6.00	1.00	0.25	6.00			
		3	2.00	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
	Sapthagiri Hall Road								
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		4	6.00	1.00	0.25	6.00			
		3	2.00	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		5	4.00	1.60	0.25	8.00			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
	1st Cross Kote Badavane								
		3	1.50	1.20	0.25	1.35			
		4	1.50	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		5	2.00	1.20	0.25	3.00			
	2nd Cross Kote Badavane								
		3	1.50	1.20	0.25	1.35			
		4	1.50	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		5	4.00	1.60	0.25	8.00			
	3rd Cross Kote Badavane								
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		5	4.00	1.60	0.25	8.00			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		4	6.00	1.00	0.25	6.00			
	Cut Portion								
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	1.00	0.25	59.75			
	6th Cross Rd	1	141.00	0.50	0.25	17.63			
	6th Cross Rd Continue	1	62.00	0.40	0.25	6.20			
	6th A Cross Rd	1	164.00	0.70	0.25	28.70			
	Cross Rd	1	200.00	0.80	0.25	40.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	1.20	0.25	112.50			
	1st Cross Rd	1	100.00	0.90	0.25	22.50			
	2nd Cross Rd	1	100.00	1.10	0.25	27.50			
	3rd Cross Rd	1	67.00	0.60	0.25	10.05			
						472.78	**Cum**	**71.50**	**33,803.41**
15	Providing, laying, spreading and compacting graded stone aggregate to **wet mix macadam** specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density (V-III, P.No-24,I No-4.27A)of PWD SR 2021-22).								
	Basic Rate	**2394.00**							
	Area Weightage 10%	239.40							
	Total Rate	**2633.40**							
	Ward No-08								
	Edge Correction/ Damage Portion/Bad reaches								
	Tata Nagar								
	1st Main Rd								
		4	6.00	1.00	0.225	5.40			
		3	2.00	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		5	4.00	1.60	0.225	7.20			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		5	4.00	1.60	0.225	7.20			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		6	1.50	1.20	0.225	2.43			
	B-w Road								
		4	6.00	1.00	0.225	5.40			
		3	2.00	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
	Sapthagiri Hall Road								
		3	1.50	1.20	0.225	1.22			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		3	1.50	1.20	0.225	1.22			
		4	6.00	1.00	0.225	5.40			
		3	2.00	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		5	4.00	1.60	0.225	7.20			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
	1st Cross Kote Badavane								
		3	1.50	1.20	0.225	1.22			
		4	1.50	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		5	2.00	1.20	0.225	2.70			
	2nd Cross Kote Badavane								
		3	1.50	1.20	0.225	1.22			
		4	1.50	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		5	4.00	1.60	0.225	7.20			
	3rd Cross Kote Badavane								
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		5	4.00	1.60	0.225	7.20			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		4	6.00	1.00	0.225	5.40			
	Cut Portion								
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	1.00	0.225	53.78			
	6th Cross Rd	1	141.00	0.50	0.225	15.86			
	6th Cross Rd Continue	1	62.00	0.40	0.225	5.58			
	6th A Cross Rd	1	164.00	0.70	0.225	25.83			
	Cross Rd	1	200.00	0.80	0.225	36.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	1.20	0.225	101.25			
	1st Cross Rd	1	100.00	0.90	0.225	20.25			
	2nd Cross Rd	1	100.00	1.10	0.225	24.75			
	3rd Cross Rd	1	67.00	0.60	0.225	9.05			
						425.50	**Cum**	**2633.40**	**1120505.12**
16	Providing and applying **primer coat** with SS1 grade Bitumen Emulsion on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90 kg per m2 using mechanical means. (V-III, P.No-29,I No-5.1(i) of PWD SR 2021-22).								
	Basic Rate	**44.00**							
	Area Weightage 10%	4.40							
	Total Rate	**48.40**							

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Ward No-08								
	Edge Correction/ Damage Portion/Bad reaches								
	Tata Nagar								
	1st Main Rd								
		4	6.00	1.00		24.00			
		3	2.00	1.20		7.20			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		5	4.00	1.60		32.00			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		5	4.00	1.60		32.00			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		6	1.50	1.20		10.80			
	B-w Road								
		4	6.00	1.00		24.00			
		3	2.00	1.20		7.20			
		3	1.50	1.20		5.40			
	Sapthagiri Hall Road								
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		4	6.00	1.00		24.00			
		3	2.00	1.20		7.20			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		5	4.00	1.60		32.00			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
	1st Cross Kote Badavane								
		3	1.50	1.20		5.40			
		4	1.50	1.20		7.20			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		5	2.00	1.20		12.00			
	2nd Cross Kote Badavane								
		3	1.50	1.20		5.40			
		4	1.50	1.20		7.20			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		5	4.00	1.60		32.00			
	3rd Cross Kote Badavane								
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		3	1.50	1.20		5.40			
		5	4.00	1.60		32.00			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		4	6.00	1.00		24.00			
	Cut Portion								
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	1.00		239.00			
	6th Cross Rd	1	141.00	0.50		70.50			
	6th Cross Rd Continue	1	62.00	0.40		24.80			
	6th A Cross Rd	1	164.00	0.70		114.80			
	Cross Rd	1	200.00	0.80		160.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	1.20		450.00			
	1st Cross Rd	1	100.00	0.90		90.00			
	2nd Cross Rd	1	100.00	1.10		110.00			
	3rd Cross Rd	1	67.00	0.60		40.20			
						1891.10	**Sqm**	**48.40**	**91,529.24**
17	Providing and applying **tack coat** with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.20 kg/m2 on the prepared bituminous surface cleaned with mechanical broom.(V-III, P.No-29,I No-5.3(i) of PWD SR 2021-22).								
	Basic Rate	**12.00**							
	Area Weightage 10%	1.20							
	Total Rate	**13.20**							
	Ward No-08								
	Tata Nagar								
	For Profile correction								
	1st Main Rd	1	194.00	8.00		1552.00			
	B-w Road	1	50.00	6.50		325.00			
	Sapthagiri Hall Road	1	225.50	5.40		1217.70			
	1st Cross Kote Badavane	1	70.00	4.50		315.00			
	2nd Cross Kote Badavane	1	70.00	4.30		301.00			
	3rd Cross Kote Badavane	1	110.00	4.70		517.00			
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	6.00		1434.00			
	6th Cross Rd	1	141.00	5.60		789.60			
	6th Cross Rd Continue	1	62.00	7.00		434.00			
	6th A Cross Rd	1	164.00	4.50		738.00			
	Cross Rd	1	200.00	5.50		1100.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	5.90		2212.50			
	1st Cross Rd	1	100.00	4.70		470.00			
	2nd Cross Rd	1	100.00	4.70		470.00			
	3rd Cross Rd	1	67.00	4.30		288.10			
						12163.90			
	Consider 15%					**1824.59**			
	For BC								
	Tata Nagar								
	1st Main Rd	1	194.00	8.50		1649.00			
	B-w Road	1	50.00	6.50		325.00			
	Sapthagiri Hall Road	1	225.50	5.40		1217.70			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	3rd Cross Kote Badavane	1	110.00	4.70		517.00			
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	6.00		1434.00			
	6th Cross Rd	1	141.00	5.60		789.60			
	6th Cross Rd Continue	1	62.00	7.00		434.00			
	6th A Cross Rd	1	164.00	4.50		738.00			
	Cross Rd	1	200.00	5.50		1100.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	5.90		2212.50			
	1st Cross Rd	1	100.00	4.70		470.00			
	2nd Cross Rd	1	100.00	4.70		470.00			
	3rd Cross Rd	1	67.00	4.30		288.10			
						13469.49	**Sqm**	**13.20**	**177797.20**
18	Providing and laying **Dense Graded Bituminous Macadam** with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects. (V-III, P.No-33,I No-5.12C of PWD SR 2021-22).								
	Basic Rate	**9889.00**							
	Area Weightage 10%	988.90							
	Total Rate	**10877.90**							
	Ward No-08								
	Tata Nagar								
	For Profile correction								
	1st Main Rd	1	194.00	8.00	0.05	77.60			
	B-w Road	1	50.00	6.50	0.05	16.25			
	Sapthagiri Hall Road	1	225.50	5.40	0.05	60.89			
	1st Cross Kote Badavane	1	70.00	4.50	0.05	15.75			
	2nd Cross Kote Badavane	1	70.00	4.30	0.05	15.05			
	3rd Cross Kote Badavane	1	110.00	4.70	0.05	25.85			
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	6.00	0.05	71.70			
	6th Cross Rd	1	141.00	5.60	0.05	39.48			
	6th Cross Rd Continue	1	62.00	7.00	0.05	21.70			
	6th A Cross Rd	1	164.00	4.50	0.05	36.90			
	Cross Rd	1	200.00	5.50	0.05	55.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	5.90	0.05	110.63			
	1st Cross Rd	1	100.00	4.70	0.05	23.50			
	2nd Cross Rd	1	100.00	4.70	0.05	23.50			
	3rd Cross Rd	1	67.00	4.30	0.05	14.41			
						211.39			
	Profile correction 20%					**42.28**			
	Edge Correction/ Damage Portion/Bad reaches								
	Tata Nagar								
	1st Main Rd								
		4	6.00	1.00	0.05	1.20			
		3	2.00	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		5	4.00	1.60	0.05	1.60			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		5	4.00	1.60	0.05	1.60			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		6	1.50	1.20	0.05	0.54			
	B-w Road								
		4	6.00	1.00	0.05	1.20			
		3	2.00	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
	Sapthagiri Hall Road								
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		4	6.00	1.00	0.05	1.20			
		3	2.00	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		5	4.00	1.60	0.05	1.60			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
	1st Cross Kote Badavane								
		3	1.50	1.20	0.05	0.27			
		4	1.50	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		5	2.00	1.20	0.05	0.60			
	2nd Cross Kote Badavane								
		3	1.50	1.20	0.05	0.27			
		4	1.50	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		5	4.00	1.60	0.05	1.60			
	3rd Cross Kote Badavane								
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		5	4.00	1.60	0.05	1.60			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		4	6.00	1.00	0.05	1.20			
	Cut Portion								
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	1.00	0.05	11.95			
	6th Cross Rd	1	141.00	0.50	0.05	3.53			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	6th Cross Rd Continue	1	62.00	0.40	0.05	1.24			
	6th A Cross Rd	1	164.00	0.70	0.05	5.74			
	Cross Rd	1	200.00	0.80	0.05	8.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	1.20	0.05	22.50			
	1st Cross Rd	1	100.00	0.90	0.05	4.50			
	2nd Cross Rd	1	100.00	1.10	0.05	5.50			
	3rd Cross Rd	1	67.00	0.60	0.05	2.01			
						136.83	**Cum**	**10877.90**	**1488444.81**
19	Providing and laying **Bituminous Concrete with 40/60 TPH** capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects (V-III, P.No.36, I.No.5.16C of PWD SR 2021-22).								
	Basic Rate	**11531.00**							
	Area Weightage 10%	1153.10							
	Total Rate	**12684.10**							
	Ward No-08								
	Asphalt Road								
	For BC								
	Tata Nagar								
	1st Main Rd	1	194.00	8.00	0.04	62.08			
	B-w Road	1	50.00	6.50	0.04	13.00			
	Sapthagiri Hall Road	1	225.50	5.40	0.04	48.71			
	1st Cross Kote Badavane	1	70.00	4.50	0.04	12.60			
	2nd Cross Kote Badavane	1	70.00	4.30	0.04	12.04			
	3rd Cross Kote Badavane	1	110.00	4.70	0.04	20.68			
	Devi Nagara								
	Devi Nagara Main Rd	1	239.00	6.00	0.04	57.36			
	6th Cross Rd	1	141.00	5.60	0.04	31.58			
	6th Cross Rd Continue	1	62.00	7.00	0.04	17.36			
	6th A Cross Rd	1	164.00	4.50	0.04	29.52			
	Cross Rd	1	200.00	5.50	0.04	44.00			
	Muneshwara Layout								
	1st Main Road	1	375.00	5.90	0.04	88.50			
	1st Cross Rd	1	100.00	4.70	0.04	18.80			
	2nd Cross Rd	1	100.00	4.70	0.04	18.80			
	3rd Cross Rd	1	67.00	4.30	0.04	11.52			
						486.56	**Cum**	**12684.10**	**6171524.96**
20	Providing and laying of **hot applied thermoplastic compound** 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes.(V-III,I No-8.15, P.No-57 of KPWD SR 2021-22)								
	Basic Rate	**478.00**							
	Area Weightage 10%	47.80							
	Total Rate	**525.80**							
	Ward No-08								
	Asphalt Road								
	Tata Nagar								
	1st Main Rd	2	194.00	0.10		38.80			
	B-w Road	2	50.00	0.10		10.00			
	Sapthagiri Hall Road	2	225.50	0.10		45.10			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	1st Cross Kote Badavane	2	65.00	0.10		13.00			
	2nd Cross Kote Badavane	2	60.00	0.10		12.00			
	3rd Cross Kote Badavane	2	110.00	0.10		22.00			
	Devi Nagara								
	Devi Nagara Main Rd	2	239.00	0.10		47.80			
	6th Cross Rd	2	141.00	0.10		28.20			
	6th Cross Rd Continue	2	62.00	0.10		12.40			
	6th A Cross Rd	2	164.00	0.10		32.80			
	Muneshwara Layout								
	1st Main Road	2	375.00	0.10		75.00			
	1st Cross Rd	2	100.00	0.10		20.00			
	2nd Cross Rd	2	100.00	0.10		20.00			
	3rd Cross Rd	2	67.00	0.10		13.40			
						390.50	**Sqm**	**525.80**	**205324.90**
21	Cost of Haulage Excluding Loading and Unloading Taking output 10 t load and lead 10 km = 100 t.km (V-III Page No.3, Item No.1.4 A of PWD SR 2021-22)								
	Basic Rate	**12.00**							
	8KM Lead = 12*8	96.00							
	Area Weightage 10%	9.60							
	Total Rate	**105.60**							
	Qty frm Item No-3		559.1	1.28		715.62			
	Qty frm Item No-13		472.8	1.28		605.15			
						1320.77	**t.Km**	**105.60**	**139473.78**
								Total Construction Cost	**13130733.69**
								Sub Total-1	**13130733.69**
								12% GST for Construction Cost	**1575688.04**
								Towards DPR & PMC Cost including GST	**292000.00**
								Sub Total -2	**14998421.74**
								Utility Shifting,Miscellaneous and Rounding off	**1,578.26**
								GRAND TOTAL	**15000000.00**

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2021-2022, Data rates and issue rates dated 07-04-2022

Assistant Engineer
Ward No-8
BBMP Bangalore

Asst. Executive Engineer,
Kodigehalli Sub Division
BBMP Bangalore

Executive Engineer,
Bytarayanapura Division
BBMP Bangalore

SILICON CONSULTING ENGINEERS

Bruhat Bangalore Mahanagara Palike
Executive Engineer Yelahanka Division

Name of Work:Improvements To Roads and Drains Of Sahakaranagara C And D Block And Surrounding Area in Ward No-08 Kodigehalli

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
1	Removing and Resetting of Footpath Slab and pointing in C.M (1:3) (Approved Rate)								
	Approved Rate	**235.00**							
	Area Weightage 10%	**23.50**							
	Total	**258.50**							
		Sqm							
	Ward No-08								
	Top Slab								
	Sarovara Layout								
	1st Main Road	2	291.00	0.90		523.80			
	1st Cross Rd	2	52.00	0.90		93.60			
	2nd Cross Rd	2	53.00	0.90		95.40			
	Sarovara Main Road[Near Impact Clg] Continue	2	100.00	0.90		180.00			
						892.80			
	Consider 60%					535.68			
	Deduct 10% Missing/Damaged Slab					53.57			
						482.11	**Sqm**	**258.50**	**124625.95**
2	**Earth work excavation by manual means** for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 5.5 m3) (V-I.No 1.4,Page No-5 PWD SR 2021-22)								
	Basic Rate	186.00							
	Loading And Unloading	118.00							
	Sub Total	304.00							
	Area Weightage 10%	30.40							
	Total Rate	**334.40**							
	Ward No-08								
	Rcc Drain								
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00	1.10	1.25	371.25			
	Lead Off Drain	2	40.00	1.10	1.00	88.00			
	For Culverts	8	6.20	1.50	1.00	74.40			
						533.65	**Cum**	**334.40**	**178452.56**
3	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) **Mix 1:3:6 (M10) Using 40 mm** nominal size graded crushed coarse aggregates (V-1, P.No-15, I No-2.1.3 of PWD SR 2021-22)								
	Basic Rate	**5752.00**							

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Area Weightage 10%	**575.20**							
	Total Rate	**6327.20**							
	Ward No-08								
	Rcc Drain								
	Sarovara Layout								
	Clg] Continue	1	270.00	1.10	0.15	44.55			
	Lead Off Drain	2	45.00	1.10	0.15	14.85			
	For Culverts	8	6.20	1.50	0.15	11.16			
						70.56	**Cum**	**6327.20**	**446447.23**
4	Supplying, **Fitting and Placing un-coated TMT bar** Reinforcement in sub-structure complete as per Drawing and Technical Specifications.(V-III, I.No 13.1 Page No 99, PWD SR 2021-22)								
	Basic Rate	**103329.00**							
	Area Weightage 10%	**10332.90**							
	Total Rate	**113661.90**							
	For RCC Drain , 60kg/Sqm	1	130.05	60.00		7803.00			
	For RCC Culvert, 90kg/Sqm	1	25.59	90.00		2303.42			
						10.11	**Tn**	**113661.90**	**1148715.35**
5	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) **M20 Design Mix Using 20 mm nominal** size graded crushed coarse aggregates (V-1,P.No.17, I.No.2.4.2 of PWD SR 2021-22)								
	Basic Rate	**6256.00**							
	5% for Centring	**312.80**							
	Sub Total	**6568.80**							
	Area Weightage 10%	**656.88**							
	Total Rate	**7225.68**							
	Ward No-08								
	Rcc Drain Raft								
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00	0.90	0.15	36.45			
	Lead Off Drain	2	40.00	0.90	0.15	10.80			
	Rcc Drain Wall								
	Sarovara Layout								
	Clg] Continue	2	270.00	0.15	0.80	64.80			
	Lead Off Drain	4	40.00	0.15	0.75	18.00			
						130.05			
	Culvert Raft								
		8	6.20	1.20	0.20	11.90			
	Culvert Wall								
		16	6.20	0.23	0.60	13.69			
						25.59			
						155.64	**Cum**	**7225.68**	**1124630.85**

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
6	Providing and fixing **precast reinforced cement concrete covering slabs of 10Cm thick** made of M20 with OPC cement,with 20mm and down size graded granite metal coarse aggregate @0.70 mixed, Inculding providing and removing centering, shuttering, strutting propping etc., for edges of slabs with TMT steel (Fe500) cost of all materials, labour, all lead and lift, HOM of machinery, curing, including cost of reinforcement etc., complete as directed by the Engineer in charge of the work								
	Data Rate	**2072.00**							
	Ward No-08								
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00	0.90		243.00			
	Lead Off Drain	2	40.00	0.90		72.00			
	Add Missing/Damaged Slab					45.00			
						360.00	**Sqm**	**2072.00**	**745920.00**
7	Providing and fixing **RCC precast cover slab of 230mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data Rate	**5037.00**							
	For Culverts								
		8	6.20	1.20		59.52			
						59.52	**Sqm**	**5037.00**	**299802.24**
8	Providing and laying in position **plain cement concrete** for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. **Mix 1:3:6 (M10) Using 20 mm** nominal size graded crushed coarse aggregates (V-I, No-2.1.4, P.No-15 of PWD SR 2021-22).								
	Basic rate	**5926.00**							
	Area Weightage 10%	**592.60**							
	Total	**6518.60**							
	Ward No-08	**Cum**							
	For Below Kerb Stone								
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00	0.20	0.10	5.40			
	1st Main Road	2	115.00	0.20	0.10	4.60			
						10.00	**Cum**	**6518.60**	**65,186.00**
9	Providing and fixing pre cast **solid cement concrete kerb stones** made out of M20 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete as directed by the Engineer in Charge of the work (Approved Rate)								
	Approved rate	**507.00**							
	Ward No-08								
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00			270.00			
						270.00	M		
	1st Main Road	2	285.00			570.00			
	Consider 20%					**114.00**	M		

Sl no	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
						384.00			
						853.00	**Nos**	**507.00**	**432471.00**
10	**Painting two coats** after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces (V-III, P.No.56, I.No.8.10 of PW, PWD SR 2021-22)								
	Basic Rate	85.00							
	Area Weightage 10%	8.50							
	Total Rate	**93.50**							
	Sarovara Layout								
	Sarovara Main Road[Near Impact Clg] Continue	1	270.00		0.35	94.50			
	1st Main Road	2	285.00		0.35	199.50			
						294.00	**Sqm**	**93.50**	**27,489.00**
11	Earth work in surface **excavation by mechanical means** for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work ((V-I, P.No-8, I No-1.12 of PWD SR 2021-22)								
	Basic Rate	**65.00**							
	Area Weightage 10%	6.50							
	Total Rate	**71.50**							
	Ward No-08								
	Sarovara Layout								
	New Asphalt Road								
	Sarovara Main Road[Near Impact Clg]	1	178.00	6.20	0.25	275.90			
	Edge Correction/ Damage Portion/Bad reaches								
	Shantivana Layout								
	1st Cross Rd	1	410.00	2.50	0.25	256.25			
	Sarovara Layout								
	1st Main Road	1	291.00	3.50	0.25	254.63			
	1st Cross Rd	1	52.00	0.70	0.25	9.10			
	2nd Cross Rd	1	53.00	0.90	0.25	11.93			
	Sarovara Main Road[Near Impact Clg] Continue	1	204.50	0.80	0.25	40.90			
						848.70	**Cum**	**71.50**	**60,682.05**
12	**Construction of Embankment** by excavating the available approved Gravel/Murrum deposited at a place or borrow pits during or prior excavation with all lifts and lead, transportation to site, spreading, grading to required slope and compacting to meet the requirement complete as per specifications, including cost of labour,rolling,water,all materials,usage& all other appurtenaces required to complete the work ((V-I, P.No-7, I No-1.8 of PWD SR 2021-22)								
	Basic Rate	**402.00**							
	Area Weightage 10%	40.20							
	Total Rate	**442.20**							
	Ward No-08								
	Sarovara Layout								
	1st Main Road	1	291.00	6.30	0.30	549.99			
						549.99	**Cum**	**442.20**	**243205.58**

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
13	Providing, laying, spreading and compacting graded stone aggregate to **wet mix macadam** specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density (V-III, P.No-24,I No-4.27A)of PWD SR 2021-22).								
	Basic Rate	**2394.00**							
	Area Weightage 10%	239.40							
	Total Rate	**2633.40**							
	Ward No-08								
	Sarovara Layout								
	New Asphalt Road								
	Sarovara Main Road[Near Impact Clg]	1	178.00	6.20	0.225	248.31			
	Edge Correction/ Damage Portion/Bad reaches								
	Shantivana Layout								
	1st Cross Rd	1	410.00	2.50	0.225	230.63			
	Sarovara Layout								
	1st Main Road	1	291.00	3.50	0.225	229.16			
	1st Cross Rd	1	52.00	0.70	0.225	8.19			
	2nd Cross Rd	1	53.00	0.90	0.225	10.73			
	Sarovara Main Road[Near Impact Clg] Continue	1	204.50	0.80	0.225	36.81			
						763.83	**Cum**	**2633.40**	**2011469.92**
14	Providing and applying **primer coat** with SS1 grade Bitumen Emulsion on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90 kg per m2 using mechanical means. (V-III, P.No-29,I No-5.1(i) of PWD SR 2021-22).								
	Basic Rate	**44.00**							
	Area Weightage 10%	4.40							
	Total Rate	**48.40**							
	Ward No-08								
	Sarovara Layout								
	New Asphalt Road								
	Sarovara Main Road[Near Impact Clg]	1	178.00	6.20		1103.60			
	Edge Correction/ Damage Portion/Bad reaches								
	Shantivana Layout								
	1st Cross Rd	1	410.00	2.50		1025.00			
	Sarovara Layout								
	1st Main Road	1	291.00	3.50		1018.50			
	1st Cross Rd	1	52.00	0.70		36.40			
	2nd Cross Rd	1	53.00	0.90		47.70			
	Sarovara Main Road[Near Impact Clg] Continue	1	204.50	0.80		163.60			
						3394.80	**Sqm**	**48.40**	**164308.32**
15	Providing and applying **tack coat** with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.20 kg/m2 on the prepared bituminous surface cleaned with mechanical broom.(V-III, P.No-29,I No-5.3(i) of PWD SR 2021-22).								
	Basic Rate	**12.00**							
	Area Weightage 10%	1.20							
	Total Rate	**13.20**							
	Ward No-08								

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	For BC								
	Sarovara Layout								
	Shantivana Layout								
	1st Cross Rd	1	410.00	6.80		2788.00			
	Sarovara Layout								
	1st Main Road	1	291.00	6.30		1833.30			
	1st Cross Rd	1	52.00	5.80		301.60			
	2nd Cross Rd	1	53.00	5.40		286.20			
	Sarovara Main Road[Near Impact Clg] Continue	1	382.50	6.20		2371.50			
						7580.60	**Sqm**	**13.20**	**100063.92**
16	Providing and laying **Dense Graded Bituminous Macadam** with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects. (V-III, P.No-33,I No-5.12C of PWD SR 2021-22).								
	Basic Rate	**9889.00**							
	Area Weightage 10%	988.90							
	Total Rate	**10877.90**							
	Ward No-08								
	Sarovara Layout								
	New Asphalt Road								
	Sarovara Main Road[Near Impact Clg]	1	178.00	6.20	0.05	55.18			
	Edge Correction/ Damage Portion/Bad reaches								
	Shantivana Layout								
	1st Cross Rd	1	410.00	2.50	0.05	51.25			
	Sarovara Layout								
	1st Main Road	1	291.00	3.50	0.05	50.93			
	1st Cross Rd	1	52.00	0.70	0.05	1.82			
	2nd Cross Rd	1	53.00	0.90	0.05	2.39			
	Sarovara Main Road[Near Impact Clg] Continue	1	204.50	0.80	0.05	8.18			
						169.74	**Cum**	**10877.90**	**1846414.75**
17	Providing and laying **Bituminous Concrete with 40/60 TPH** capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects (V-III, P.No.36, I.No.5.16C of PWD SR 2021-22).								
	Basic Rate	**11531.00**							
	Area Weightage 10%	1153.10							
	Total Rate	**12684.10**							
	Ward No-08								
	Asphalt Road								
	For BC								
	Shantivana Layout								
	1st Cross Rd	1	410.00	6.80	0.04	111.52			
	Sarovara Layout								
	1st Main Road	1	291.00	6.30	0.04	73.33			
	1st Cross Rd	1	52.00	5.80	0.04	12.06			
	2nd Cross Rd	1	53.00	5.40	0.04	11.45			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Sarovara Main Road[Near Impact Clg] Continue	1	382.50	6.20	0.04	94.86			
						303.22	**Cum**	**12684.10**	**3846123.54**
18	Providing and laying of **hot applied thermoplastic compound** 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes.(V-III,I No-8.15, P.No-57 of KPWD SR 2021-22)								
	Basic Rate	**478.00**							
	Area Weightage 10%	47.80							
	Total Rate	**525.80**							
	Ward No-08								
	Asphalt Road								
	Shantivana Layout								
	1st Cross Rd	2	410.00	0.10		82.00			
	Sarovara Layout								
	1st Main Road	2	291.00	0.10		58.20			
	1st Cross Rd	2	52.00	0.10		10.40			
	2nd Cross Rd	2	53.00	0.10		10.60			
	Sarovara Main Road[Near Impact Clg] Continue	2	382.50	0.10		76.50			
						155.70	**Sqm**	**525.80**	**81,867.06**
9	Cost of Haulage Excluding Loading and Unloading Taking output 25 t load and lead 10 km = 250 t.km (V-III Page No.3, Item No.1.4C of PWD SR 2021-22)								
	Basic Rate	**5.00**							
	8KM Lead = 12*8	96.00							
	Area Weightage 10%	9.60							
	Total Rate	**105.60**							
	Qty frm Item No-2		533.7	1.28		683.07			
	Qty frm Item No-11		848.7	1.28		1086.34			
						1769.41	**t.Km**	**105.60**	**186849.48**
								Total Construction Cost	**13134724.80**
								Sub Total-1	**13134724.80**
								12% GST for Construction Cost	**1576166.98**
								Towards DPR & PMC Cost including GST	**288400.00**
								Sub Total -2	**14999291.78**
								Utility Shifting,Miscellaneous and Rounding off	**708.22**
								GRAND TOTAL	**15000000.00**

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2021-2022, Data rates and issue rates dated 07-04-2022

Assistant Engineer
Ward No-8
BBMP Bangalore

Asst. Executive Engineer,
Kodigehalli Sub Division
BBMP Bangalore

Executive Engineer,
Bytarayanapura Division
BBMP Bangalore

SILICON CONSULTING ENGINEERS

Bruhat Bangalore Mahanagara Palike
Executive Engineer Yelahanka Division

Name of Work:Improvements To Roads and Drains Of Balaji Layout,Bhadrappa Layout And Surrounding Areas In Ward No.08 Kodigehalli

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
2	**Earth work excavation by manual means** for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 14 m3) (V-I.No 1.4,Page No-5 PWD SR 2021-22)								
	Basic Rate	186.00							
	Loading And Unloading	118.00							
	Sub Total	304.00							
	Area Weightage 10%	30.40							
	Total Rate	**334.40**							
	Ward No-08								
	Rcc Drain								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00	1.10	1.10	665.50			
	JR Rd	2	140.00	1.10	1.05	323.40			
	Balaji Layout								
	7th Cross Rd	2	120.00	1.10	1.00	264.00			
	For Culverts	13	6.00	1.50	1.00	117.00			
						1369.90	**Cum**	**334.40**	**458094.56**
3	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) **Mix 1:3:6 (M10) Using 40 mm** nominal size graded crushed coarse aggregates (V-1, P.No-15, I No-2.1.3 of PWD SR 2021-22)								
	Basic Rate	**5752.00**							
	Area Weightage 10%	**575.20**							
	Total Rate	**6327.20**							
	Ward No-08								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00	1.10	0.15	90.75			
	JR Rd	2	140.00	1.10	0.15	46.20			
	Balaji Layout								
	7th Cross Rd	2	120.00	1.10	1.00	264.00			
	For Culverts	13	6.00	1.50	0.15	17.55			
						418.50	**Cum**	**6327.20**	**2647933.20**
4	Supplying, **Fitting and Placing un-coated TMT bar** Reinforcement in sub-structure complete as per Drawing and Technical Specifications.(V-III, I.No 13.1 Page No 99, PWD SR 2021-22)								
	Basic Rate	**103329.00**							

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Area Weightage 10%	**10332.90**							
	Total Rate	**113661.90**							
	For RCC Drain, 60kg/Sqm	1	345.30	60.00		20718.00			
	For RCC Culvert, 90kg/Sqm	1	36.66	90.00		3299.40			
						24.02	**Tn**	**113661.90**	**2729863.32**
5	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) **M20 Design Mix Using 20 mm nominal** size graded crushed coarse aggregates (V-1,P.No.17, I.No.2.4.2 of PWD SR 2021-22)								
	Basic Rate	**6256.00**							
	5% for Centring	**312.80**							
	Sub Total	**6568.80**							
	Area Weightage 10%	**656.88**							
	Total Rate	**7225.68**							
	Ward No-08								
	Rcc Drain Raft								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00	0.90	0.15	74.25			
	JR Rd	2	140.00	0.90	0.15	37.80			
	Balaji Layout								
	7th Cross Rd	2	120.00	0.90	0.15	32.40			
	Rcc DrainWall								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	4	275.00	0.15	0.65	107.25			
	JR Rd	4	140.00	0.15	0.60	50.40			
	Balaji Layout								
	7th Cross Rd	4	120.00	0.15	0.60	43.20			
						345.30			
	Culvert Raft	13	6.00	1.20	0.20	18.72			
	Culvert Wall	26	6.00	0.23	0.50	17.94			
						36.66			
						381.96	**Cum**	**7225.68**	**2759920.73**
6	Providing and fixing **precast reinforced cement concrete covering slabs of 10Cm thick** made of M20 with OPC cement,with 20mm and down size graded granite metal coarse aggregate @0.70 mixed, Inculding providing and removing centering, shuttering, strutting propping etc., for edges of slabs with TMT steel (Fe500) cost of all materials, labour, all lead and lift, HOM of machinery, curing, including cost of reinforcement etc., complete as directed by the Engineer in charge of the work								
	Data Rate	**2072.00**							
	Ward No-08								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00	0.90		495.00			
	JR Rd	2	140.00	0.90		252.00			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Balaji Layout								
	7th Cross Rd	2	120.00	0.90		216.00			
						963.00	**Sqm**	**2072.00**	**1995336.00**
7	Providing and fixing **RCC precast cover slab of 230mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data Rate	**5037.00**							
	For Culverts	13	6.00	1.20		93.60			
						93.60	**Sqm**	**5037.00**	**471463.20**
8	Providing and laying in position **plain cement concrete** for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. **Mix 1:3:6 (M10) Using 20 mm** nominal size graded crushed coarse aggregates (V-I, No-2.1.4, P.No-15 of PWD SR 2021-22).								
	Basic rate	**5926.00**							
	Area Weightage 10%	**592.60**							
	Total	**6518.60**							
	Ward No-08								
	For Below Kerb Stone								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00	0.20	0.10	11.00			
	JR Rd	2	140.00	0.20	0.10	5.60			
						16.60	**Cum**	**6518.60**	**108208.76**
9	Providing and fixing pre cast **solid cement concrete kerb stones** made out of M20 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete as directed by the Engineer in Charge of the work (Approved Rate)								
	Approved rate	**507.00**							
	Ward No-08								
	For Kerb Stone								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00			550.00			
	JR Rd	2	140.00			280.00			
						830.00			
	Deduct Existing 10 % Kerb					83.00			
						747.00	**M**		
						1660.00	**Nos**	**507.00**	**841620.00**
10	**Painting two coats** after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces (V-III, P.No.56, I.No.8.10 of PW, PWD SR 2021-22)								
	Basic Rate	85.00							
	Area Weightage 10%	8.50							
	Total Rate	**93.50**							
	Ward No-08								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	275.00		0.35	192.50			
	JR Rd	2	140.00		0.35	98.00			
						290.50	**Sqm**	**93.50**	**27,161.75**
11	Earth work in surface **excavation by mechanical means** for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work ((V-I, P.No-8, I No-1.12 of PWD SR 2021-22)								
	Basic Rate	**65.00**							
	Area Weightage 10%	6.50							
	Total Rate	**71.50**							
	Ward No-08								
	Asphalt Road								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	130.00	5.90	0.25	191.75			
	Edge Correction/ Damage Portion/Bad reaches								
	Shyanbhog Narayanappa Layout								
		6	4.00	2.00	0.25	12.00			
		4	6.00	1.00	0.25	6.00			
		3	2.00	1.20	0.25	1.80			
		3	1.50	1.20	0.25	1.35			
		8	4.00	1.60	0.25	12.80			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		5	4.00	1.60	0.25	8.00			
		5	2.00	1.20	0.25	3.00			
		3	1.50	1.20	0.25	1.35			
		3	1.50	1.20	0.25	1.35			
		6	1.50	1.20	0.25	2.70			
	Cut Portion								
	1st Cross Rd	1	151.00	0.60	0.25	22.65			
	JR Rd	1	140.00	0.60	0.25	21.00			
	Cross Rd	1	175.00	0.60	0.25	26.25			
	Balaji Layout								
	7th Cross Rd	1	235.00	1.00	0.25	58.75			
						376.45	**Cum**	**71.50**	**26,916.18**

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
12	Providing, laying, spreading and compacting graded stone aggregate to **wet mix macadam** specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density (V-III, P.No-24,I No-4.27A)of PWD SR 2021-22).								
	Basic Rate	**2394.00**							
	Area Weightage 10%	239.40							
	Total Rate	**2633.40**							
	Ward No-08								
	Asphalt Road								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	130.00	5.90	0.225	172.58			
	Edge Correction/ Damage Portion/Bad reaches								
	Shyanbhog Narayanappa Layout								
		6	4.00	2.00	0.225	10.80			
		4	6.00	1.00	0.225	5.40			
		3	2.00	1.20	0.225	1.62			
		3	1.50	1.20	0.225	1.22			
		8	4.00	1.60	0.225	11.52			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		5	4.00	1.60	0.225	7.20			
		5	2.00	1.20	0.225	2.70			
		3	1.50	1.20	0.225	1.22			
		3	1.50	1.20	0.225	1.22			
		6	1.50	1.20	0.225	2.43			
	Cut Portion								
	1st Cross Rd	1	151.00	0.60	0.225	20.39			
	JR Rd	1	140.00	0.60	0.225	18.90			
	Cross Rd	1	175.00	0.60	0.225	23.63			
	Balaji Layout								
	7th Cross Rd	1	235.00	1.00	0.225	52.88			
						338.81	**Cum**	**2633.40**	**892209.09**
13	Providing and applying **primer coat** with SS1 grade Bitumen Emulsion on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90 kg per m2 using mechanical means. (V-III, P.No-29,I No-5.1(i) of PWD SR 2021-22).								
	Basic Rate	**44.00**							
	Area Weightage 10%	4.40							
	Total Rate	**48.40**							
	Ward No-08								
	Asphalt Road								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	130.00	5.90		767.00			
	Edge Correction/ Damage Portion/Bad reaches								

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Shyanbhog Narayanappa Layout								
		6	4.00	2.00		48.00			
		4	6.00	1.00		24.00			
		3	2.00	1.20		7.20			
		3	1.50	1.20		5.40			
		8	4.00	1.60		51.20			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		5	4.00	1.60		32.00			
		5	2.00	1.20		12.00			
		3	1.50	1.20		5.40			
		3	1.50	1.20		5.40			
		6	1.50	1.20		10.80			
	Cut Portion								
	1st Cross Rd	1	151.00	0.60		90.60			
	JR Rd	1	140.00	0.60		84.00			
	Cross Rd	1	175.00	0.60		105.00			
	Balaji Layout								
	7th Cross Rd	1	235.00	1.00		235.00			
						1505.80	**Sqm**	**48.40**	**72,880.72**
14	Providing and applying **tack coat** with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.20 kg/m2 on the prepared bituminous surface cleaned with mechanical broom.(V-III, P.No-29,I No-5.3(i) of PWD SR 2021-22).								
	Basic Rate	**12.00**							
	Area Weightage 10%	1.20							
	Total Rate	**13.20**							
	Ward No-08								
	Asphalt Road								
	For Profile correction								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd Continue	1	154.00	5.80		893.20			
	1st Cross Rd	1	151.00	6.20		936.20			
	JR Rd	1	140.00	5.80		812.00			
	Cross Rd	1	175.00	5.80		1015.00			
	Balaji Layout								
	7th Cross Rd	1	235.00	6.00		1410.00			
						5066.40			
	Consider 10%					**506.64**			
	For BC								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	284.00	5.80		1647.20			
	1st Cross Rd	1	151.00	6.20		936.20			
	JR Rd	1	140.00	5.80		812.00			
	Cross Rd	1	175.00	5.80		1015.00			
	Balaji Layout								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	7th Cross Rd	1	235.00	6.00		1410.00			
						6327.04	**Sqm**	**13.20**	**83,516.93**
15	Providing and laying **Dense Graded Bituminous Macadam** with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects. (V-III, P.No-33,I No-5.12C of PWD SR 2021-22).								
	Basic Rate	**9889.00**							
	Area Weightage 10%	988.90							
	Total Rate	**10877.90**							
	Ward No-08								
	New Asphalt Road								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	130.00	5.90	0.05	38.35			
	For Profile correction								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd Continue	1	154.00	5.80	0.05	44.66			
	1st Cross Rd	1	151.00	6.20	0.05	46.81			
	JR Rd	1	140.00	5.80	0.05	40.60			
	Cross Rd	1	175.00	5.80	0.05	50.75			
	Balaji Layout								
	7th Cross Rd	1	235.00	6.00	0.05	70.50			
						253.32			
	Profile correction 10%					**25.33**			
	Edge Correction/ Damage Portion/Bad reaches								
	Shyanbhog Narayanappa Layout								
		6	4.00	2.00	0.05	2.40			
		4	6.00	1.00	0.05	1.20			
		3	2.00	1.20	0.05	0.36			
		3	1.50	1.20	0.05	0.27			
		8	4.00	1.60	0.05	2.56			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		5	4.00	1.60	0.05	1.60			
		5	2.00	1.20	0.05	0.60			
		3	1.50	1.20	0.05	0.27			
		3	1.50	1.20	0.05	0.27			
		6	1.50	1.20	0.05	0.54			
	Cut Portion								
	1st Cross Rd	1	151.00	0.60	0.05	4.53			
	JR Rd	1	140.00	0.60	0.05	4.20			
	Cross Rd	1	175.00	0.60	0.05	5.25			
	Balaji Layout								

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	7th Cross Rd	1	235.00	1.00	0.05	11.75			
						36.94			
						100.62	**Cum**	**10877.90**	**1094556.05**
16	Providing and laying **Bituminous Concrete with 40/60 TPH** capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects (V-III, P.No.36, I.No.5.16C of PWD SR 2021-22).								
	Basic Rate	**11531.00**							
	Area Weightage 10%	1153.10							
	Total Rate	**12684.10**							
	Ward No-08								
	Asphalt Road								
	For BC								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	1	284.00	5.80	0.04	65.89			
	1st Cross Rd	1	151.00	6.20	0.04	37.45			
	JR Rd	1	140.00	5.80	0.04	32.48			
	Cross Rd	1	175.00	5.80	0.04	40.60			
	Balaji Layout								
	7th Cross Rd	1	235.00	6.00	0.04	56.40			
						232.82	**Cum**	**12684.10**	**2953061.43**
17	Providing and laying of **hot applied thermoplastic compound** 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes.(V-III,I No-8.15, P.No-57 of KPWD SR 2021-22)								
	Basic Rate	**478.00**							
	Area Weightage 10%	47.80							
	Total Rate	**525.80**							
	Ward No-08								
	Asphalt Road								
	Shyanbhog Narayanappa Layout								
	2nd Main Rd	2	284.00	0.10		56.80			
	1st Cross Rd	2	151.00	0.10		30.20			
	JR Rd	2	140.00	0.10		28.00			
	Cross Rd	2	175.00	0.10		35.00			
	Balaji Layout								
	7th Cross Rd	2	235.00	0.10		47.00			
						197.00	**Sqm**	**525.80**	**103582.60**
18	Cost of Haulage Excluding Loading and Unloading Taking output 25 t load and lead 10 km = 250 t.km (V-III Page No.3, Item No.1.4C of PWD SR 2021-22)								
	Basic Rate	**5.00**							
	8KM Lead = 12*8	96.00							
	Area Weightage 10%	9.60							
	Total Rate	**105.60**							
	Qty frm Item No-2		1369.9	1.28		1753.47			
	Qty frm Item No-11		376.5	1.28		481.86			
						2235.33	**t.Km**	**105.60**	**236050.64**

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
								Total Construction Cost	17502375.15
								Sub Total-1	17502375.15
								12% GST for Construction Cost	2100285.02
								Towards DPR & PMC Cost including GST	396800.00
								Sub Total -2	19999460.16
								Utility Shifting,Miscellaneous and Rounding off	539.84
	GRAND TOTAL								20000000.00

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2021-2022, Data rates and issue rates dated 07-04-2022

Assistant Engineer
Ward No-8
BBMP Bangalore

Asst. Executive Engineer,
Kodigehalli Sub Division
BBMP Bangalore

Executive Engineer,
Bytarayanapura Division
BBMP Bangalore

SILICON CONSULTING ENGINEERS

Bruhat Bangalore Mahanagara Palike

Executive Engineer Bytarayanapura Division

Name Of Work:Improvements to Balance Roads,Drains At Nanjappa Layout,Chamundeshwari Layout,Kalappa Layout,Venkatagiriyappa Layout,Hanuman Layout,Patel pille Gowda Layout,Blue Moon Garden,Bloom Field Garden, C Ramiah Layout and Surrounding Areas In Ward No-10[Kuvempunagara]

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
1	Removing and resetting Stone Slab of drain and pointing in C.M (1:3) (Approved Rate)								
	Approved Rate	**121.00**							
	Area Weightage 10%	**12.10**							
	Total	**133.10**							
		Sqm							
	Bottom Slab								
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	1.65		504.90			
	3rd Cross Rd	1	182.00	1.65		300.30			
	4th Cross Rd	1	122.50	1.65		202.13			
	5th Cross Rd	1	333.00	1.65		549.45			
	Tindi Mane Rd	1	135.00	1.65		222.75			
	1st Main Rd	1	223.00	1.65		367.95			
	2nd Main Rd	1	219.00	1.65		361.35			
	3rd Main Rd	1	217.00	1.65		358.05			
	4th Main Rd	1	299.50	1.65		494.18			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	1.65		353.93			
	2nd Cross Rd	1	199.00	1.65		328.35			
	3rd Cross Rd	1	201.50	1.65		332.48			
	Samsidh MLZS Rd	1	207.00	1.65		341.55			
	4th Cross Rd	1	50.00	1.65		82.50			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	1.65		89.93			
	1st Cross Rd	1	115.00	1.65		189.75			
	2nd Cross Rd	1	50.00	1.65		82.50			
	3rd Cross Rd	1	76.00	1.65		125.40			
						5287.43			
	Consider 40%					2114.97			
	Deduct 15% Missing/Damaged Slab					317.25			
						1797.72	**Sqm**	**133.10**	**239277.13**
2	Removing and Resetting of Footpath Slab and pointing in C.M (1:3) (Approved Rate)								
	Approved Rate	**235.00**							
	Area Weightage 10%	**23.50**							
	Total	**258.50**							
		Sqm							
	Top Slab								
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	0.90		275.40			
	3rd Cross Rd	1	182.00	0.75		136.50			
	4th Cross Rd	1	122.50	0.75		91.88			
	5th Cross Rd	1	333.00	0.75		249.75			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Tindi Mane Rd	1	135.00	0.75		101.25			
	1st Main Rd	1	223.00	0.75		167.25			
	2nd Main Rd	1	219.00	0.75		164.25			
	3rd Main Rd	1	217.00	0.75		162.75			
	4th Main Rd	1	299.50	0.90		269.55			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	0.75		160.88			
	2nd Cross Rd	1	199.00	0.75		149.25			
	3rd Cross Rd	1	201.50	0.75		151.13			
	Samsidh MLZS Rd	1	207.00	0.90		186.30			
	4th Cross Rd	1	50.00	0.75		37.50			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	0.90		49.05			
	1st Cross Rd	1	115.00	0.90		103.50			
	2nd Cross Rd	1	50.00	0.90		45.00			
	3rd Cross Rd	1	76.00	0.90		68.40			
	Ramanna Garden								
	2nd Main Rd	1	141.00	0.90		126.90			
	1st Cross Rd	1	239.00	0.90		215.10			
	2nd Cross Rd	1	155.00	0.90		139.50			
	3rd Cross Rd	1	155.00	0.90		139.50			
	1st A Main Rd	1	88.00	0.90		79.20			
	5th Cross Rd	1	103.50	0.90		93.15			
	1st Main Rd	1	207.00	0.90		186.30			
						3549.23			
	Consider 60%					2129.54			
	Deduct 30% Missing/Damaged Slab					638.86			
						1490.67	**Sqm**	**258.50**	**385339.36**
3	**Earth work excavation by manual means** for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 5.5 m3) (V-I.No 1.4,Page No-5 PWD SR 2021-22)								
	Basic Rate	186.00							
	Loading And Unloading	118.00							
	Sub Total	304.00							
	Area Weightage 10%	30.40							
	Total Rate	**334.40**							
	RCC Drain								
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	1	310.00	1.00	1.10	341.00			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	2	46.50	1.00	1.10	102.30			
	2nd Cross Rd	1	35.00	1.00	1.10	38.50			
	3rd Cross Rd	1	45.00	1.00	1.10	49.50			
	Left Side 3rd Cross Rd	1	26.00	1.00	1.10	28.60			
	Lead Off Drain	1	245.00	1.10	1.10	296.45			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	For Culverts								
	Nanjappa Layout	10	6.40	1.50	1.10	105.60			
	Hanuman Layout	10	6.40	1.50	1.10	105.60			
	Patel pille Gowda Layout	10	6.40	1.50	1.10	105.60			
	Drain Desilt								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	0.45	0.45	61.97			
	3rd Cross Rd	1	182.00	0.45	0.45	36.86			
	4th Cross Rd	1	122.50	0.45	0.45	24.81			
	5th Cross Rd	1	333.00	0.45	0.45	67.43			
	Tindi Mane Rd	1	135.00	0.45	0.45	27.34			
	1st Main Rd	1	223.00	0.45	0.45	45.16			
	2nd Main Rd	1	219.00	0.45	0.45	44.35			
	3rd Main Rd	1	217.00	0.45	0.45	43.94			
	4th Main Rd	1	299.50	0.45	0.45	60.65			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	0.45	0.45	43.44			
	2nd Cross Rd	1	199.00	0.45	0.45	40.30			
	3rd Cross Rd	1	201.50	0.45	0.45	40.80			
	Samsidh MLZS Rd	1	207.00	0.45	0.45	41.92			
	4th Cross Rd	1	50.00	0.45	0.45	10.13			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	0.60	0.55	17.99			
	1st Cross Rd	1	115.00	0.60	0.60	41.40			
	2nd Cross Rd	1	50.00	0.60	0.60	18.00			
	3rd Cross Rd	1	76.00	0.60	0.55	25.08			
	Ramanna Garden								
	2nd Main Rd	1	141.00	0.60	0.45	38.07			
	1st Cross Rd	1	239.00	0.60	0.60	86.04			
	2nd Cross Rd	1	155.00	0.60	0.60	55.80			
	3rd Cross Rd	1	155.00	0.60	0.55	51.15			
	1st A Main Rd	1	88.00	0.60	0.60	31.68			
	5th Cross Rd	1	103.50	0.60	0.60	37.26			
	1st Main Rd	1	207.00	0.60	0.55	68.31			
						2233.00	**Cum**	**334.40**	**746714.36**
4	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) **Mix 1:3:6 (M10) Using 40 mm** nominal size graded crushed coarse aggregates (V-1, P.No-15, I No-2.1.3 of PWD SR 2021-22)								
	Basic Rate	**5752.00**							
	Area Weightage 10%	**575.20**							
	Total Rate	**6327.20**							
	Ward No-10								
	RCC Drain								
	2nd Block BEL Layout								
	2nd Cross Rd	1	310.00	1.00	0.15	46.50			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	2	46.50	1.00	0.15	13.95			
	2nd Cross Rd	1	35.00	1.00	0.15	5.25			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	3rd Cross Rd	1	45.00	1.00	0.15	6.75			
	Left Side 3rd Cross Rd	1	26.00	1.00	0.15	3.90			
	Lead Off Drain	1	245.00	1.10	0.15	40.43			
	For Culverts								
	Nanjappa Layout	10	6.40	1.50	0.15	14.40			
	Hanuman Layout	10	6.40	1.50	0.15	14.40			
	Patel pille Gowda Layout	10	6.40	1.50	0.15	14.40			
						159.98	**Cum**	**6327.20**	**1012193.82**
5	Supplying, **Fitting and Placing un-coated TMT bar** Reinforcement in sub-structure complete as per Drawing and Technical Specifications.(V-III, I.No 13.1 Page No 99, PWD SR 2021-22)								
	Basic Rate	**103329.00**							
	Area Weightage 10%	**10332.90**							
	Total Rate	**113661.90**							
	For RCC Drain, 60kg/Sqm	1	234.53	60.00		14071.50			
	For RCC Culvert, 90kg/Sqm	1	99.07	90.00		8916.48			
						22.99	**Tn**	**113661.90**	**2612857.48**
6	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) **M20 Design Mix Using 20 mm nominal** size graded crushed coarse aggregates (V-1,P.No.17, I.No.2.4.2 of PWD SR 2021-22)								
	Basic Rate	**6256.00**							
	5% for Centring	**312.80**							
	Sub Total	**6568.80**							
	Area Weightage 10%	**656.88**							
	Total Rate	**7225.68**							
	Ward No-10								
	Rcc Drain Raft								
	2nd Block BEL Layout								
	2nd Cross Rd	1	310.00	0.80	0.15	37.20			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	2	46.50	0.80	0.15	11.16			
	2nd Cross Rd	1	35.00	0.80	0.15	4.20			
	3rd Cross Rd	1	45.00	0.80	0.15	5.40			
	Left Side 3rd Cross Rd	1	26.00	0.80	0.15	3.12			
	Lead Off Drain	1	245.00	0.90	0.15	33.08			
	Rcc Drain Wall								
	2nd Block BEL Layout								
	2nd Cross Rd	2	310.00	0.15	0.65	60.45			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	4	46.50	0.15	0.60	16.74			
	2nd Cross Rd	2	35.00	0.15	0.60	6.30			
	3rd Cross Rd	2	45.00	0.15	0.60	8.10			
	Left Side 3rd Cross Rd	2	26.00	0.15	0.60	4.68			
	Lead Off Drain	2	245.00	0.15	0.60	44.10			
						234.53			
	Culvert Raft								
	Nanjappa Layout	10	6.40	1.20	0.20	15.36			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Hanuman Layout	10	6.40	1.20	0.20	15.36			
	Patel pille Gowda Layout	10	6.40	1.20	0.20	15.36			
	Culvert Wall								
	Nanjappa Layout	20	6.40	0.23	0.60	17.66			
	Hanuman Layout	20	6.40	0.23	0.60	17.66			
	Patel pille Gowda Layout	20	6.40	0.23	0.60	17.66			
						99.07			
						333.60	**Cum**	**7225.68**	**2410465.17**
	Providing and fixing **precast reinforced cement concrete covering slabs of 10Cm thick** made of M20 with OPC cement,with 20mm and down size graded granite metal coarse aggregate @0.70 mixed, Inculding providing and removing centering, shuttering, strutting propping etc., for edges of slabs with TMT steel (Fe500) cost of all materials, labour, all lead and lift, HOM of machinery, curing, including cost of reinforcement etc., complete as directed by the Engineer in charge of the work								
	Data Rate	**2072.00**							
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	1	310.00	0.75		232.50			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	2	46.50	0.75		69.75			
	2nd Cross Rd	1	35.00	0.75		26.25			
	3rd Cross Rd	1	45.00	0.75		33.75			
	Left Side 3rd Cross Rd	1	26.00	0.75		19.50			
	Lead Off Drain	1	245.00	0.90		220.50			
	Add Missing/Damaged Slab					402.00			
						1004.25	**Sqm**	**2072.00**	**2080806.00**
3	Providing and fixing **RCC precast cover slab of 230mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data Rate	**5037.00**							
	For Culverts								
	Nanjappa Layout	10	6.40	1.20		76.80			
	Hanuman Layout	10	6.40	1.20		76.80			
	Patel pille Gowda Layout	10	6.40	1.20		76.80			
						230.40	**Sqm**	**5037.00**	**1160524.80**
9	Providing **B S slabs of selected quality roughly dressed having a size of 10 cms** thick and fixed in cement mortar (1:6) including fixing curing ete., complete. as directed by the Engineer in Charge of the work (excluding GST and Area Leading Charges)								
	Approved rate	**837.00**							
	Area Weightage 10%	**83.70**							
	Total	**920.70**							
	Top missing/Damaged Slab Qty from Item No-2					638.86			
						638.86	**Sqm**	**920.70**	**588198.86**
10	Earth work in surface **excavation by mechanical means** for lowering & leveling the ground for all works other than foundation in all kinds of soils & upto depth not exceeding 300mm as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenances required to complete the work ((V-I, P.No-8, I No-1.12 of PWD SR 2021-22)								

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Basic Rate	65.00							
	Area Weightage 10%	6.50							
	Total Rate	71.50							
	Ward No-10								
	Asphalt Road								
	Edge Correctin/ Damage Portion/Bad reaches								
	2nd Block BEL Layout								
		10	5.00	2.00	0.25	25.00			
		8	3.00	1.80	0.25	10.80			
		6	6.00	1.50	0.25	13.50			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
		7	5.00	1.90	0.25	16.63			
		6	6.00	1.50	0.25	13.50			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
		7	5.00	1.90	0.25	16.63			
		5	4.00	1.30	0.25	6.50			
		2	4.00	1.70	0.25	3.40			
		5	3.50	1.50	0.25	6.56			
		5	4.00	1.30	0.25	6.50			
		2	4.00	1.70	0.25	3.40			
		5	3.50	1.50	0.25	6.56			
		5	3.00	2.00	0.25	7.50			
		3	2.00	1.60	0.25	2.40			
	Bloom Field Garden								
		15	3.00	1.80	0.25	20.25			
		7	2.00	1.50	0.25	5.25			
		4	3.50	1.00	0.25	3.50			
		7	5.00	1.90	0.25	16.63			
		6	3.00	2.00	0.25	9.00			
		4	5.00	2.00	0.25	10.00			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
		5	4.00	1.30	0.25	6.50			
		2	4.00	1.70	0.25	3.40			
		3	2.40	1.30	0.25	2.34			
		2	1.60	1.00	0.25	0.80			
	Bloom Moon Garden								
		6	3.00	2.00	0.25	9.00			
		5	3.50	1.50	0.25	6.56			
		5	3.00	2.00	0.25	7.50			
		3	2.00	1.60	0.25	2.40			
		5	3.50	1.50	0.25	6.56			
		5	3.50	1.50	0.25	6.56			
		5	3.00	2.00	0.25	7.50			
		8	5.00	2.00	0.25	20.00			
		7	7.00	2.00	0.25	24.50			
		6	3.00	2.00	0.25	9.00			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		7	7.00	2.00	0.25	24.50			
		6	3.00	2.00	0.25	9.00			
		4	5.00	2.00	0.25	10.00			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
	Ramanna Garden								
		12	2.50	2.00	0.25	15.00			
		9	5.20	1.80	0.25	21.06			
		2	4.00	1.70	0.25	3.40			
		6	6.00	1.50	0.25	13.50			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
		3	3.50	2.00	0.25	5.25			
		9	6.00	1.50	0.25	20.25			
		4	3.00	2.00	0.25	6.00			
		7	5.00	1.90	0.25	16.63			
		5	4.00	1.30	0.25	6.50			
		2	4.00	1.70	0.25	3.40			
		7	5.00	1.90	0.25	16.63			
		5	4.00	1.30	0.25	6.50			
		2	4.00	1.70	0.25	3.40			
		5	3.50	1.50	0.25	6.56			
		5	3.50	1.50	0.25	6.56			
		5	3.00	2.00	0.25	7.50			
		8	5.00	2.00	0.25	20.00			
		7	7.00	2.00	0.25	24.50			
		6	3.00	2.00	0.25	9.00			
		4	5.00	2.00	0.25	10.00			
		3	4.00	1.90	0.25	5.70			
	Kempegowda Layout								
		5	3.50	1.50	0.25	6.56			
		5	3.00	2.00	0.25	7.50			
		6	5.00	2.00	0.25	15.00			
		7	5.00	2.00	0.25	17.50			
						791.03	**Cum**	**71.50**	**56,558.29**
11	Providing, laying, spreading and compacting graded stone aggregate to **wet mix macadam** specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density (V-III, P.No-24,I No-4.27A)of PWD SR 2021-22).								
	Basic Rate	**2394.00**							
	Area Weightage 10%	239.40							
	Total Rate	**2633.40**							
	Ward No-10								
	Asphalt Road								
	Edge Correctin/ Damage Portion/Bad reaches								
	2nd Block BEL Layout								
		10	5.00	2.00	0.225	22.50			
		8	3.00	1.80	0.225	9.72			

Sl no	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		6	6.00	1.50	0.225	12.15			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
		7	5.00	1.90	0.225	14.96			
		6	6.00	1.50	0.225	12.15			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
		7	5.00	1.90	0.225	14.96			
		5	4.00	1.30	0.225	5.85			
		2	4.00	1.70	0.225	3.06			
		5	3.50	1.50	0.225	5.91			
		5	4.00	1.30	0.225	5.85			
		2	4.00	1.70	0.225	3.06			
		5	3.50	1.50	0.225	5.91			
		5	3.00	2.00	0.225	6.75			
		3	2.00	1.60	0.225	2.16			
	Bloom Field Garden								
		15	3.00	1.80	0.225	18.23			
		7	2.00	1.50	0.225	4.73			
		4	3.50	1.00	0.225	3.15			
		7	5.00	1.90	0.225	14.96			
		6	3.00	2.00	0.225	8.10			
		4	5.00	2.00	0.225	9.00			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
		5	4.00	1.30	0.225	5.85			
		2	4.00	1.70	0.225	3.06			
		3	2.40	1.30	0.225	2.11			
		2	1.60	1.00	0.225	0.72			
	Bloom Moon Garden								
		6	3.00	2.00	0.225	8.10			
		5	3.50	1.50	0.225	5.91			
		5	3.00	2.00	0.225	6.75			
		3	2.00	1.60	0.225	2.16			
		5	3.50	1.50	0.225	5.91			
		5	3.50	1.50	0.225	5.91			
		5	3.00	2.00	0.225	6.75			
		8	5.00	2.00	0.225	18.00			
		7	7.00	2.00	0.225	22.05			
		6	3.00	2.00	0.225	8.10			
		7	7.00	2.00	0.225	22.05			
		6	3.00	2.00	0.225	8.10			
		4	5.00	2.00	0.225	9.00			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
	Ramanna Garden								
		12	2.50	2.00	0.225	13.50			
		9	5.20	1.80	0.225	18.95			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		2	4.00	1.70	0.225	3.06			
		6	6.00	1.50	0.225	12.15			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
		3	3.50	2.00	0.225	4.73			
		9	6.00	1.50	0.225	18.23			
		4	3.00	2.00	0.225	5.40			
		7	5.00	1.90	0.225	14.96			
		5	4.00	1.30	0.225	5.85			
		2	4.00	1.70	0.225	3.06			
		7	5.00	1.90	0.225	14.96			
		5	4.00	1.30	0.225	5.85			
		2	4.00	1.70	0.225	3.06			
		5	3.50	1.50	0.225	5.91			
		5	3.50	1.50	0.225	5.91			
		5	3.00	2.00	0.225	6.75			
		8	5.00	2.00	0.225	18.00			
		7	7.00	2.00	0.225	22.05			
		6	3.00	2.00	0.225	8.10			
		4	5.00	2.00	0.225	9.00			
		3	4.00	1.90	0.225	5.13			
	Kempegowda Layout								
		5	3.50	1.50	0.225	5.91			
		5	3.00	2.00	0.225	6.75			
		6	5.00	2.00	0.225	13.50			
		7	5.00	2.00	0.225	15.75			
						711.92	**Cum**	**2633.40**	**1874776.71**
12	Providing and applying **primer coat** with SS1 grade Bitumen Emulsion on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90 kg per m2 using mechanical means. (V-III, P.No-29,I No-5.1(i) of PWD SR 2021-22).								
	Basic Rate	**44.00**							
	Area Weightage 10%	4.40							
	Total Rate	**48.40**							
	Ward No-10								
	Asphalt Road								
	For Profile correction								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	6.80		2080.80			
	3rd Cross Rd	1	182.00	5.80		1055.60			
	4th Cross Rd	1	122.50	6.70		820.75			
	5th Cross Rd	1	333.00	6.70		2231.10			
	Tindi Mane Rd	1	135.00	7.20		972.00			
	1st Main Rd	1	223.00	6.40		1427.20			
	2nd Main Rd	1	219.00	6.50		1423.50			
	3rd Main Rd	1	217.00	6.20		1345.40			
	4th Main Rd	1	299.50	6.00		1797.00			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	5.60		1201.20			
	2nd Cross Rd	1	199.00	5.90		1174.10			
	3rd Cross Rd	1	201.50	5.80		1168.70			
	Samsidh MLZS Rd	1	207.00	6.00		1242.00			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	4th Cross Rd	1	50.00	6.00		300.00			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	5.40		294.30			
	1st Cross Rd	1	115.00	5.40		621.00			
	2nd Cross Rd	1	50.00	4.80		240.00			
	3rd Cross Rd	1	76.00	5.50		418.00			
	Ramanna Garden								
	2nd Main Rd	1	141.00	6.50		916.50			
	1st Cross Rd	1	239.00	5.70		1362.30			
	2nd Cross Rd	1	155.00	5.90		914.50			
	3rd Cross Rd	1	155.00	6.20		961.00			
	1st A Main Rd	1	88.00	6.70		589.60			
	5th Cross Rd	1	103.50	5.60		579.60			
	1st Main Rd	1	207.00	5.40		1117.80			
	Kempegowda Layout								
	R.R School Behind	1	59.50	5.80		345.10			
	B/w Rd	1	22.00	4.40		96.80			
	1st Main Rd	1	93.00	6.00		558.00			
						27253.85			
	Profile correction 15%					**4088.08**			
	Edge Correctin/ Damage Portion/Bad reaches								
	Ward No-10								
	2nd Block BEL Layout								
		10	5.00	2.00		100.00			
		8	3.00	1.80		43.20			
		6	6.00	1.50		54.00			
		3	3.50	2.00		21.00			
		9	6.00	1.50		81.00			
		4	3.00	2.00		24.00			
		7	5.00	1.90		66.50			
		6	6.00	1.50		54.00			
		3	3.50	2.00		21.00			
		9	6.00	1.50		81.00			
		4	3.00	2.00		24.00			
		7	5.00	1.90		66.50			
		5	4.00	1.30		26.00			
		2	4.00	1.70		13.60			
		5	3.50	1.50		26.25			
		5	4.00	1.30		26.00			
		2	4.00	1.70		13.60			
		5	3.50	1.50		26.25			
		5	3.00	2.00		30.00			
		3	2.00	1.60		9.60			
	Bloom Field Garden								
		15	3.00	1.80		81.00			
		7	2.00	1.50		21.00			
		4	3.50	1.00		14.00			
		7	5.00	1.90		66.50			
		6	3.00	2.00		36.00			
		4	5.00	2.00		40.00			
		3	3.50	2.00		21.00			
		9	6.00	1.50		81.00			

Sl o	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		4	3.00	2.00		24.00			
		5	4.00	1.30		26.00			
		2	4.00	1.70		13.60			
		3	2.40	1.30		9.36			
		2	1.60	1.00		3.20			
	Bloom Moon Garden								
		6	3.00	2.00		36.00			
		5	3.50	1.50		26.25			
		5	3.00	2.00		30.00			
		3	2.00	1.60		9.60			
		5	3.50	1.50		26.25			
		5	3.50	1.50		26.25			
		5	3.00	2.00		30.00			
		8	5.00	2.00		80.00			
		7	7.00	2.00		98.00			
		6	3.00	2.00		36.00			
		7	7.00	2.00		98.00			
		6	3.00	2.00		36.00			
		4	5.00	2.00		40.00			
		3	3.50	2.00		21.00			
		9	6.00	1.50		81.00			
		4	3.00	2.00		24.00			
	Ramanna Garden								
		12	2.50	2.00		60.00			
		9	5.20	1.80		84.24			
		2	4.00	1.70		13.60			
		6	6.00	1.50		54.00			
		3	3.50	2.00		21.00			
		9	6.00	1.50		81.00			
		4	3.00	2.00		24.00			
		3	3.50	2.00		21.00			
		9	6.00	1.50		81.00			
		4	3.00	2.00		24.00			
		7	5.00	1.90		66.50			
		5	4.00	1.30		26.00			
		2	4.00	1.70		13.60			
		7	5.00	1.90		66.50			
		5	4.00	1.30		26.00			
		2	4.00	1.70		13.60			
		5	3.50	1.50		26.25			
		5	3.50	1.50		26.25			
		5	3.00	2.00		30.00			
		8	5.00	2.00		80.00			
		7	7.00	2.00		98.00			
		6	3.00	2.00		36.00			
		4	5.00	2.00		40.00			
		3	4.00	1.90		22.80			
	Kempegowda Layout								
		5	3.50	1.50		26.25			
		5	3.00	2.00		30.00			
		6	5.00	2.00		60.00			
		7	5.00	2.00		70.00			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
						7252.18	**Sqm**	**48.40**	**351005.39**
13	Providing and applying **tack coat** with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.20 kg/m2 on the prepared bituminous surface cleaned with mechanical broom.(V-III, P.No-29,I No-5.3(i) of PWD SR 2021-22).								
	Basic Rate	**12.00**							
	Area Weightage 10%	1.20							
	Total Rate	**13.20**							
	Ward No-10								
	Asphalt Road								
	For Profile correction								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	6.80		2080.80			
	3rd Cross Rd	1	182.00	5.80		1055.60			
	4th Cross Rd	1	122.50	6.70		820.75			
	5th Cross Rd	1	333.00	6.70		2231.10			
	Tindi Mane Rd	1	135.00	7.20		972.00			
	1st Main Rd	1	223.00	6.40		1427.20			
	2nd Main Rd	1	219.00	6.50		1423.50			
	3rd Main Rd	1	217.00	6.20		1345.40			
	4th Main Rd	1	299.50	6.00		1797.00			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	5.60		1201.20			
	2nd Cross Rd	1	199.00	5.90		1174.10			
	3rd Cross Rd	1	201.50	5.80		1168.70			
	Samsidh MLZS Rd	1	207.00	6.00		1242.00			
	4th Cross Rd	1	50.00	6.00		300.00			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	5.40		294.30			
	1st Cross Rd	1	115.00	5.40		621.00			
	2nd Cross Rd	1	50.00	4.80		240.00			
	3rd Cross Rd	1	76.00	5.50		418.00			
	Ramanna Garden								
	2nd Main Rd	1	141.00	6.50		916.50			
	1st Cross Rd	1	239.00	5.70		1362.30			
	2nd Cross Rd	1	155.00	5.90		914.50			
	3rd Cross Rd	1	155.00	6.20		961.00			
	1st A Main Rd	1	88.00	6.70		589.60			
	5th Cross Rd	1	103.50	5.60		579.60			
	1st Main Rd	1	207.00	5.40		1117.80			
	Kempegowda Layout								
	R.R School Behind	1	59.50	5.80		345.10			
	B/w Rd	1	22.00	4.40		96.80			
	1st Main Rd	1	93.00	6.00		558.00			
						27253.85			
	Consider 15%					**4088.08**			
	For BC								
	Ward No-10								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	6.80		2080.80			
	3rd Cross Rd	1	182.00	5.80		1055.60			
	4th Cross Rd	1	122.50	6.70		820.75			
	5th Cross Rd	1	333.00	6.70		2231.10			
	Tindi Mane Rd	1	135.00	7.20		972.00			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	1st Main Rd	1	223.00	6.40		1427.20			
	2nd Main Rd	1	219.00	6.50		1423.50			
	3rd Main Rd	1	217.00	6.20		1345.40			
	4th Main Rd	1	299.50	6.00		1797.00			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	5.60		1201.20			
	2nd Cross Rd	1	199.00	5.90		1174.10			
	3rd Cross Rd	1	201.50	5.80		1168.70			
	Samsidh MLZS Rd	1	207.00	6.00		1242.00			
	4th Cross Rd	1	50.00	6.00		300.00			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	5.40		294.30			
	1st Cross Rd	1	115.00	5.40		621.00			
	2nd Cross Rd	1	50.00	4.80		240.00			
	3rd Cross Rd	1	76.00	5.50		418.00			
	Ramanna Garden								
	2nd Main Rd	1	141.00	6.50		916.50			
	1st Cross Rd	1	239.00	5.70		1362.30			
	2nd Cross Rd	1	155.00	5.90		914.50			
	3rd Cross Rd	1	155.00	6.20		961.00			
	1st A Main Rd	1	88.00	6.70		589.60			
	5th Cross Rd	1	103.50	5.60		579.60			
	1st Main Rd	1	207.00	5.40		1117.80			
	Kempegowda Layout								
	R.R School Behind	1	59.50	5.80		345.10			
	B/w Rd	1	22.00	4.40		96.80			
	1st Main Rd	1	93.00	6.00		558.00			
						31341.93	**Sqm**	**13.20**	**413713.44**
14	Providing and laying **Dense Graded Bituminous Macadam** with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects. (V-III, P.No-33,I No-5.12C of PWD SR 2021-22).								
	Basic Rate	**9889.00**							
	Area Weightage 10%	988.90							
	Total Rate	**10877.90**							
	Ward No-10								
	Asphalt Road								
	For Profile correction								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	6.80	0.05	104.04			
	3rd Cross Rd	1	182.00	5.80	0.05	52.78			
	4th Cross Rd	1	122.50	6.70	0.05	41.04			
	5th Cross Rd	1	333.00	6.70	0.05	111.56			
	Tindi Mane Rd	1	135.00	7.20	0.05	48.60			
	1st Main Rd	1	223.00	6.40	0.05	71.36			
	2nd Main Rd	1	219.00	6.50	0.05	71.18			
	3rd Main Rd	1	217.00	6.20	0.05	67.27			
	4th Main Rd	1	299.50	6.00	0.05	89.85			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	5.60	0.05	60.06			
	2nd Cross Rd	1	199.00	5.90	0.05	58.71			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	3rd Cross Rd	1	201.50	5.80	0.05	58.44			
	Samsidh MLZS Rd	1	207.00	6.00	0.05	62.10			
	4th Cross Rd	1	50.00	6.00	0.05	15.00			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	5.40	0.05	14.72			
	1st Cross Rd	1	115.00	5.40	0.05	31.05			
	2nd Cross Rd	1	50.00	4.80	0.05	12.00			
	3rd Cross Rd	1	76.00	5.50	0.05	20.90			
	Ramanna Garden								
	2nd Main Rd	1	141.00	6.50	0.05	45.83			
	1st Cross Rd	1	239.00	5.70	0.05	68.12			
	2nd Cross Rd	1	155.00	5.90	0.05	45.73			
	3rd Cross Rd	1	155.00	6.20	0.05	48.05			
	1st A Main Rd	1	88.00	6.70	0.05	29.48			
	5th Cross Rd	1	103.50	5.60	0.05	28.98			
	1st Main Rd	1	207.00	5.40	0.05	55.89			
	Kempegowda Layout								
	R.R School Behind	1	59.50	5.80	0.05	17.26			
	B/w Rd	1	22.00	4.40	0.05	4.84			
	1st Main Rd	1	93.00	6.00	0.05	27.90			
						1362.69			
	Profile correction 15%					**204.40**			
	Edge Correctin/ Damage Portion/Bad reaches								
	Ward No-10								
	2nd Block BEL Layout								
		10	5.00	2.00	0.05	5.00			
		8	3.00	1.80	0.05	2.16			
		6	6.00	1.50	0.05	2.70			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
		7	5.00	1.90	0.05	3.33			
		6	6.00	1.50	0.05	2.70			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
		7	5.00	1.90	0.05	3.33			
		5	4.00	1.30	0.05	1.30			
		2	4.00	1.70	0.05	0.68			
		5	3.50	1.50	0.05	1.31			
		5	4.00	1.30	0.05	1.30			
		2	4.00	1.70	0.05	0.68			
		5	3.50	1.50	0.05	1.31			
		5	3.00	2.00	0.05	1.50			
		3	2.00	1.60	0.05	0.48			
	Bloom Field Garden								
		15	3.00	1.80	0.05	4.05			
		7	2.00	1.50	0.05	1.05			
		4	3.50	1.00	0.05	0.70			
		7	5.00	1.90	0.05	3.33			
		6	3.00	2.00	0.05	1.80			
		4	5.00	2.00	0.05	2.00			

Sl No	Description of items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
		5	4.00	1.30	0.05	1.30			
		2	4.00	1.70	0.05	0.68			
		3	2.40	1.30	0.05	0.47			
		2	1.60	1.00	0.05	0.16			
	Bloom Moon Garden								
		6	3.00	2.00	0.05	1.80			
		5	3.50	1.50	0.05	1.31			
		5	3.00	2.00	0.05	1.50			
		3	2.00	1.60	0.05	0.48			
		5	3.50	1.50	0.05	1.31			
		5	3.50	1.50	0.05	1.31			
		5	3.00	2.00	0.05	1.50			
		8	5.00	2.00	0.05	4.00			
		7	7.00	2.00	0.05	4.90			
		6	3.00	2.00	0.05	1.80			
		7	7.00	2.00	0.05	4.90			
		6	3.00	2.00	0.05	1.80			
		4	5.00	2.00	0.05	2.00			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
	Ramanna Garden								
		12	2.50	2.00	0.05	3.00			
		9	5.20	1.80	0.05	4.21			
		2	4.00	1.70	0.05	0.68			
		6	6.00	1.50	0.05	2.70			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
		3	3.50	2.00	0.05	1.05			
		9	6.00	1.50	0.05	4.05			
		4	3.00	2.00	0.05	1.20			
		7	5.00	1.90	0.05	3.33			
		5	4.00	1.30	0.05	1.30			
		2	4.00	1.70	0.05	0.68			
		7	5.00	1.90	0.05	3.33			
		5	4.00	1.30	0.05	1.30			
		2	4.00	1.70	0.05	0.68			
		5	3.50	1.50	0.05	1.31			
		5	3.50	1.50	0.05	1.31			
		5	3.00	2.00	0.05	1.50			
		8	5.00	2.00	0.05	4.00			
		7	7.00	2.00	0.05	4.90			
		6	3.00	2.00	0.05	1.80			
		4	5.00	2.00	0.05	2.00			
		3	4.00	1.90	0.05	1.14			
	Kempegowda Layout								
		5	3.50	1.50	0.05	1.31			
		5	3.00	2.00	0.05	1.50			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
		6	5.00	2.00	0.05	3.00			
		7	5.00	2.00	0.05	3.50			
						362.61	**Cum**	**10877.90**	**3944423.08**
15	Providing and laying **Bituminous Concrete with 40/60 TPH** capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder VG-30, @ 5.4 per cent of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects (V-III, P.No.36, I.No.5.16C of PWD SR 2021-22).								
	Basic Rate	**11531.00**							
	Area Weightage 10%	1153.10							
	Total Rate	**12684.10**							
	Ward No-10								
	Asphalt Road								
	For BC								
	2nd Block BEL Layout								
	2nd Cross Rd	1	306.00	6.80	0.04	83.23			
	3rd Cross Rd	1	182.00	5.80	0.04	42.22			
	4th Cross Rd	1	122.50	6.70	0.04	32.83			
	5th Cross Rd	1	333.00	6.70	0.04	89.24			
	Tindi Mane Rd	1	135.00	7.20	0.04	38.88			
	1st Main Rd	1	223.00	6.40	0.04	57.09			
	2nd Main Rd	1	219.00	6.50	0.04	56.94			
	3rd Main Rd	1	217.00	6.20	0.04	53.82			
	4th Main Rd	1	299.50	6.00	0.04	71.88			
	Bloom Field Garden								
	1st Cross Rd	1	214.50	5.60	0.04	48.05			
	2nd Cross Rd	1	199.00	5.90	0.04	46.96			
	3rd Cross Rd	1	201.50	5.80	0.04	46.75			
	Samsidh MLZS Rd	1	207.00	6.00	0.04	49.68			
	4th Cross Rd	1	50.00	6.00	0.04	12.00			
	Bloom Moon Garden								
	1st Main Rd	1	54.50	5.40	0.04	11.77			
	1st Cross Rd	1	115.00	5.40	0.04	24.84			
	2nd Cross Rd	1	50.00	4.80	0.04	9.60			
	3rd Cross Rd	1	76.00	5.50	0.04	16.72			
	Ramanna Garden								
	2nd Main Rd	1	141.00	6.50	0.04	36.66			
	1st Cross Rd	1	239.00	5.70	0.04	54.49			
	2nd Cross Rd	1	155.00	5.90	0.04	36.58			
	3rd Cross Rd	1	155.00	6.20	0.04	38.44			
	1st A Main Rd	1	88.00	6.70	0.04	23.58			
	5th Cross Rd	1	103.50	5.60	0.04	23.18			
	1st Main Rd	1	207.00	5.40	0.04	44.71			
	Kempegowda Layout								
	R.R School Behind	1	59.50	5.80	0.04	13.80			
	B/w Rd	1	22.00	4.40	0.04	3.87			
	1st Main Rd	1	93.00	6.00	0.04	22.32			
						1090.15	**Cum**	**12684.10**	**13827622.35**
16	Providing and laying of **hot applied thermoplastic compound** 2.5 mm thick including reflectorising glass beads @ 250 g/ m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes.(V-III,I No-8.15, P.No-57 of KPWD SR 2021-22)								

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Basic Rate	**478.00**							
	Area Weightage 10%	47.80							
	Total Rate	**525.80**							
	Ward No-10								
	Asphalt Road								
	2nd Block BEL Layout								
	2nd Cross Rd	2	306.00	0.10		61.20			
	3rd Cross Rd	2	182.00	0.10		36.40			
	4th Cross Rd	2	122.50	0.10		24.50			
	5th Cross Rd	2	333.00	0.10		66.60			
	Tindi Mane Rd	2	135.00	0.10		27.00			
	1st Main Rd	2	223.00	0.10		44.60			
	2nd Main Rd	2	219.00	0.10		43.80			
	3rd Main Rd	2	217.00	0.10		43.40			
	4th Main Rd	2	299.50	0.10		59.90			
	Bloom Field Garden								
	1st Cross Rd	2	214.50	0.10		42.90			
	2nd Cross Rd	2	199.00	0.10		39.80			
	3rd Cross Rd	2	201.50	0.10		40.30			
	Samsidh MLZS Rd	2	207.00	0.10		41.40			
	4th Cross Rd	2	50.00	0.10		10.00			
	Bloom Moon Garden								
	1st Main Rd	2	54.50	0.10		10.90			
	1st Cross Rd	2	115.00	0.10		23.00			
	2nd Cross Rd	2	50.00	0.10		10.00			
	3rd Cross Rd	2	76.00	0.10		15.20			
	Ramanna Garden								
	2nd Main Rd	2	141.00	0.10		28.20			
	1st Cross Rd	2	239.00	0.10		47.80			
	2nd Cross Rd	2	155.00	0.10		31.00			
	3rd Cross Rd	2	155.00	0.10		31.00			
	1st A Main Rd	2	88.00	0.10		17.60			
	5th Cross Rd	2	103.50	0.10		20.70			
	1st Main Rd	2	207.00	0.10		41.40			
	Kempegowda Layout								
	R.R School Behind	2	59.50	0.10		11.90			
	B/w Rd	2	22.00	0.10		4.40			
	1st Main Rd	2	93.00	0.10		18.60			
						893.50	**Sqm**	**525.80**	**469802.30**
17	Dismantling of **cement concrete pavement** by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 m3 in volume and stock piling at designated locations and disposal of dismantled materials and stacking serviceable and unserviceable materials separatel (V-III Page No.10, Item No.2.19 of PWD SR 2021-22)								
	Basic Rate	**422.00**							
	Area Weightage 10%	42.20							
	Total Rate	**464.20**							
	C.C road								
	Kempegowda Layout								
	R.R School Behind Continue	1	30.00	3.30	0.25	24.75			
	Byrappa Garden								
	1st Cross Rd	1	50.00	5.00	0.25	62.50			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	1	46.50	5.50	0.25	63.94			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	3rd Cross Rd	1	45.00	5.00	0.25	56.25			
	Left Side 3rd Cross Rd	1	25.00	4.50	0.25	28.13			
	4th Cross Rd	1	59.50	3.80	0.25	56.53			
						292.09			
	Deduct 30% Voids					**87.63**			
						204.46	**Cum**	**464.20**	**94,910.91**
18	Providing and laying in position **plain cement concrete** for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) **Mix 1:5:10** Using 40 mm nominal size graded crushed coarse aggregates(V-I,I No-2.11, P.No-15of KPWD SR 2021-22)								
	Basic Rate	**4976.00**							
	Area Weightage 10%	**497.60**							
	Total Rate	**5473.60**							
	C.C road								
	Kempegowda Layout								
	R.R School Behind Continue	1	30.00	3.30	0.15	14.85			
	Byrappa Garden								
	1st Cross Rd	1	50.00	5.00	0.15	37.50			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	1	46.50	5.50	0.15	38.36			
	3rd Cross Rd	1	45.00	5.00	0.15	33.75			
	Left Side 3rd Cross Rd	1	25.00	4.50	0.15	16.88			
	4th Cross Rd	1	59.50	3.80	0.15	33.92			
						175.25	**Cum**	**5473.60**	**959262.08**
19	Providing and constructing un-reinforced **plain cement concrete pavement**, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 **M30 (Grade)**, coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including construction joints, , primer, sealant , curing of concrete slabs for 14-days, and water finishing to lines and grade as per drawing and technical specification clause 1501 with all lead, lifts, loading & unloading charges, cost and conveyance of all materials, labour, equipments etc., complete. as per the directions of the Engineer-in-charge of the work.(V-III, P.No-138,I No-20.29, KPWD SR 2021-22).								
	Basic Rate	**6837.00**							
	Area Weightage 10%	**683.70**							
	Total Rate	**7520.70**							
	C.C road								
	Kempegowda Layout								
	R.R School Behind Continue	1	30.00	3.30	0.15	14.85			
	Byrappa Garden								
	1st Cross Rd	1	50.00	5.00	0.15	37.50			
	Dodd Bommasandra -4th Stage								
	D.lokesh Building[KNV 2nd Stage]	1	46.50	5.50	0.15	38.36			
	3rd Cross Rd	1	45.00	5.00	0.15	33.75			
	Left Side 3rd Cross Rd	1	25.00	4.50	0.15	16.88			
	4th Cross Rd	1	59.50	3.80	0.15	33.92			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
						175.25	Cum	7520.70	1318021.48
20	Cost of Haulage Excluding Loading and Unloading Taking output 10 t load and lead 10 km = 100 t.km (V-III Page No.3, Item No.1.4 A of PWD SR 2021-22)								
	Basic Rate	12.00							
	8KM Lead = 12*8	96.00							
	Area Weightage 10%	9.60							
	Total Rate	**105.60**							
	Qty frm Item No-3		2233.0	1.28		2858.24			
	Qty frm Item No-14		791.0	1.28		1012.51			
	Qty frm Item No-17		204.5	2.10		429.37			
						4300.12	**t.Km**	**105.60**	**454092.40**
								Total Construction Cost	**35000565.43**
								Sub Total-1	**35000565.43**
								12% GST for Construction Cost	**4200067.85**
								Towards DPR & PMC Cost including GST	**798800.00**
								Sub Total -2	**39999433.28**
								Utility Shifting,Miscellaneous and Rounding off	**566.72**
								GRAND TOTAL	**40000000.00**

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2021-2022, Data rates and issue rates dated 07-04-2022

Assistant Engineer
Ward No-10
BBMP Bangalore

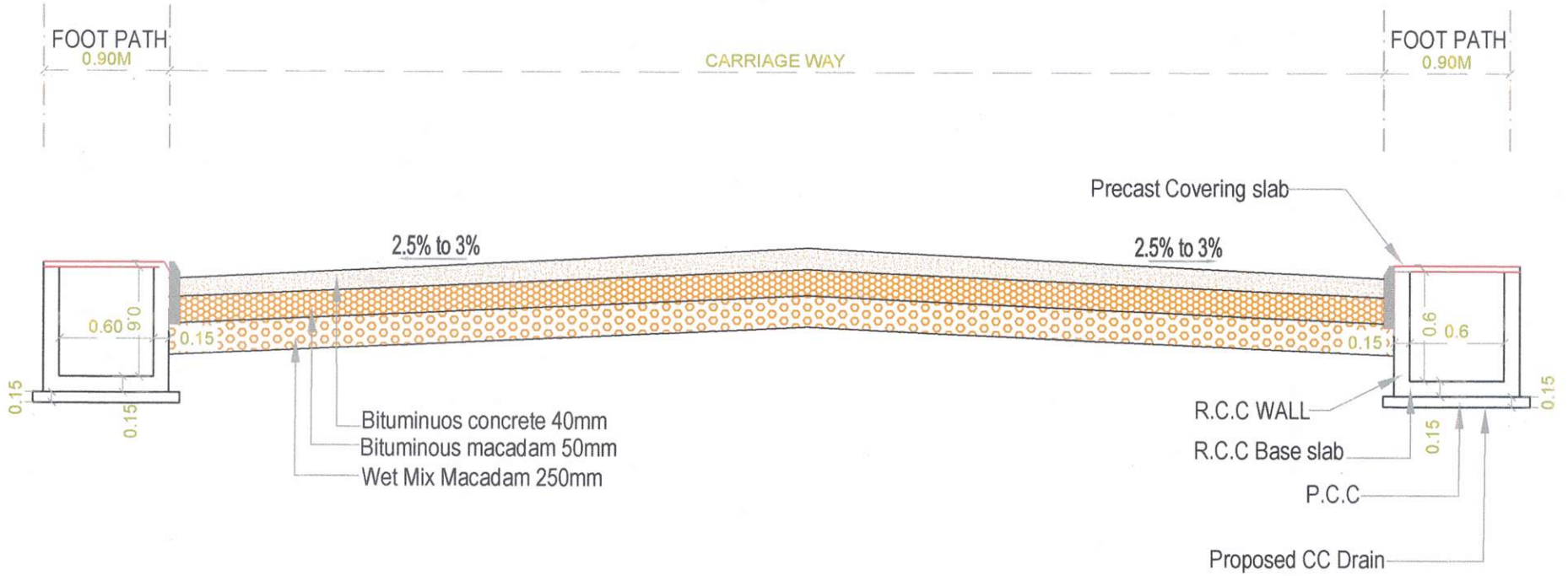
Asst. Executive Engineer,
Vidyaranyapura Sub Division
BBMP Bangalore

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Executive Engineer,
Bytarayanapura Division
BBMP Bangalore

SILICON CONSULTING ENGINEERS

DRAWINGS

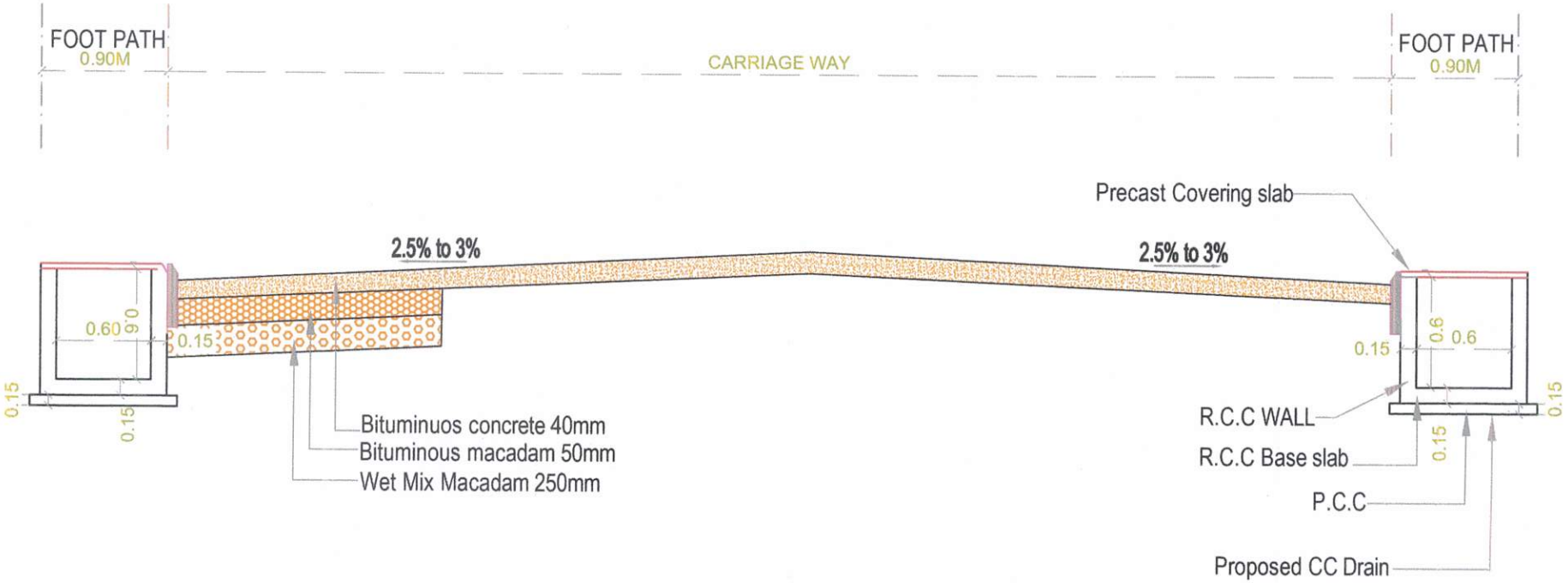


Proposed Typical Cross Section of Bituminous Surface

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

SILICON CONSULTING ENGINEERS

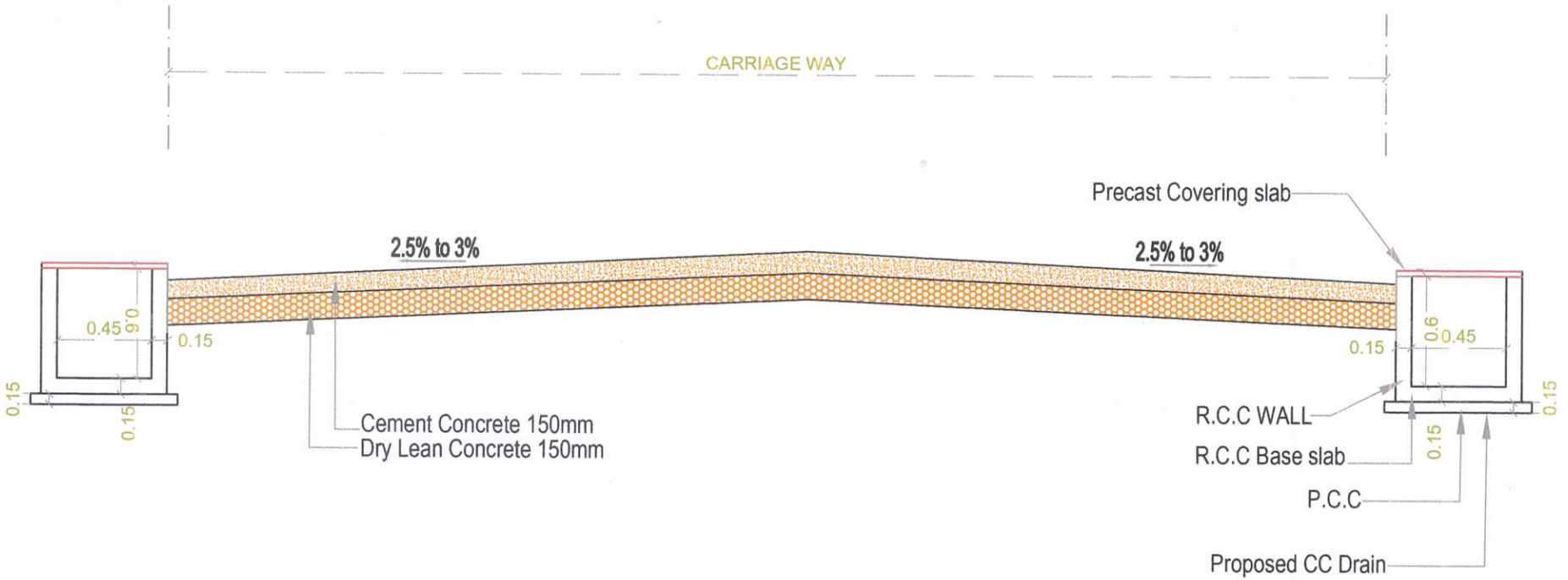
CLIENT: BRUHAT BANGALORE MAHANAGARA PALIKE	PROJECT	Dwg Title: SECTION OF ROAD	scale; N.T.S
			Date
		Dwg no:	Rev; R0



Proposed Typical Cross Section of Bituminous Surface

CLIENT: BRUHAT BANGALORE MAHANAGARA PALIKE	PROJECT: Assistant Executive Engineer Vidyaranyapura Sub Division B.B.M.P, Bangalore - 97	Dwg Title: SECTION OF ROAD	scale; N.T.S
			Date
		Dwg no:	Rev; RO

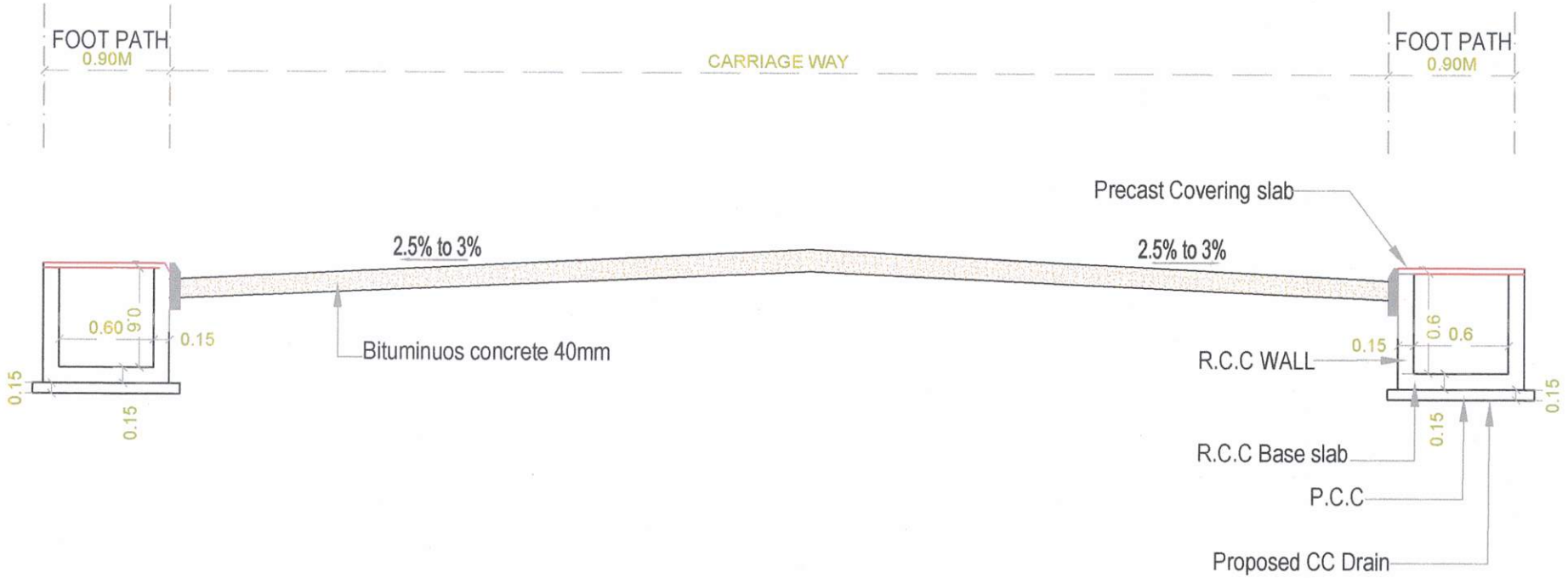
SILICON CONSULTING ENGINEERS



Proposed Typical Cross Section of Concrete Surface

CLIENT: BRUHAT BANGALORE MAHANAGARA PALIKE	PROJECT:	Dwg Title: SECTION OF ROAD	scale; N.T.S
			Date
		Dwg no:	Rev; RO

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

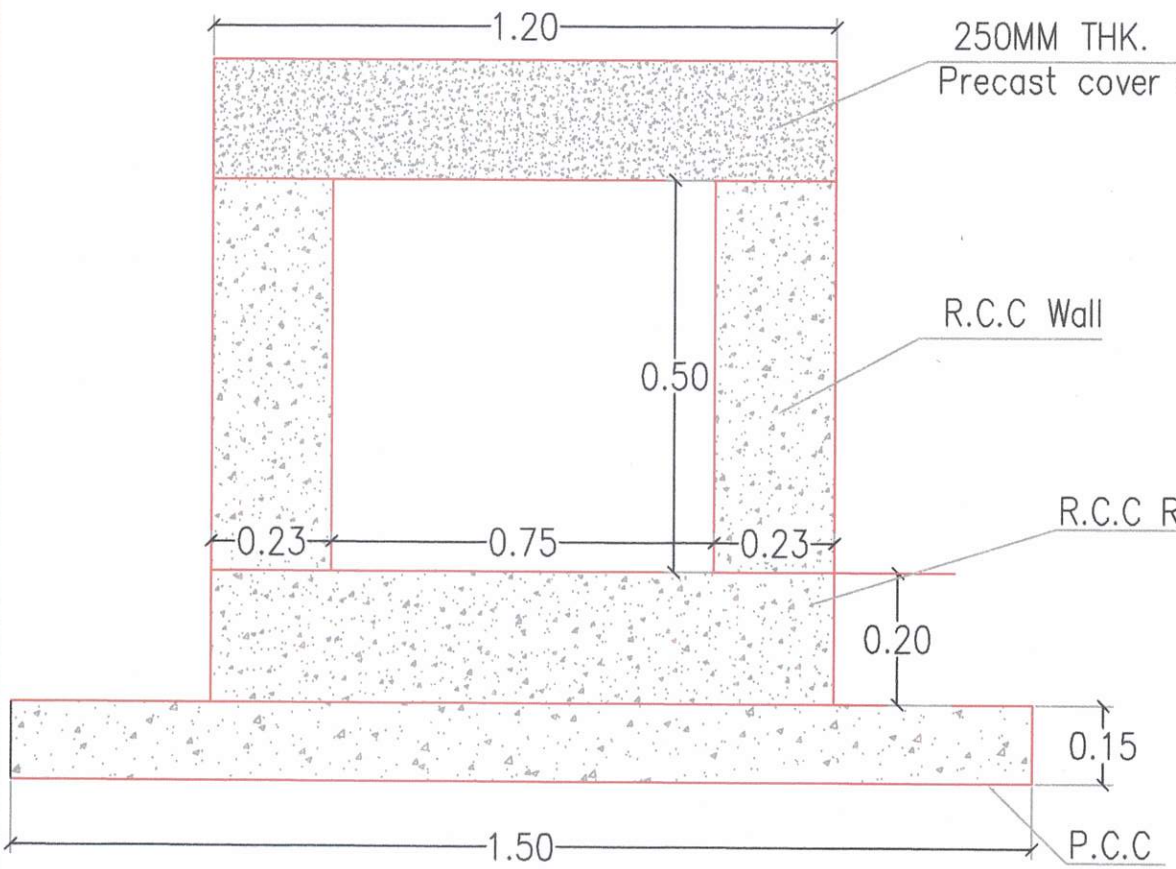


Proposed Typical Cross Section of Bituminous Surface

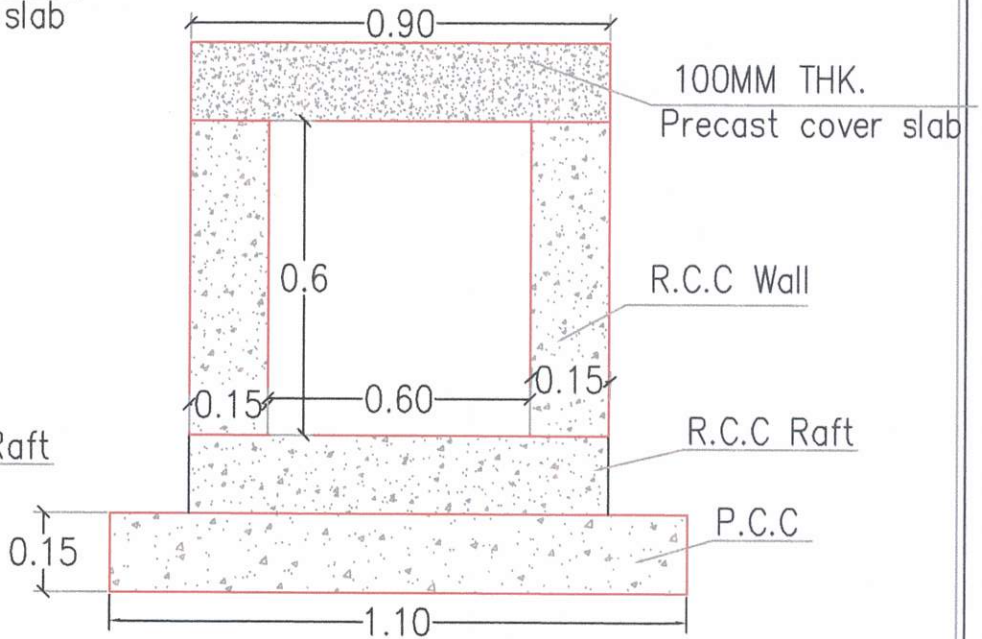
Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

CLIENT: BRUHAT BANGALORE MAHANAGARA PALIKE	PROJECT	Dwg Title: SECTION OF ROAD	scale; N.T.S
			Date
		Dwg no:	Rev; R0

SILICON CONSULTING ENGINEERS



CROSS SECTION OF CULVERT



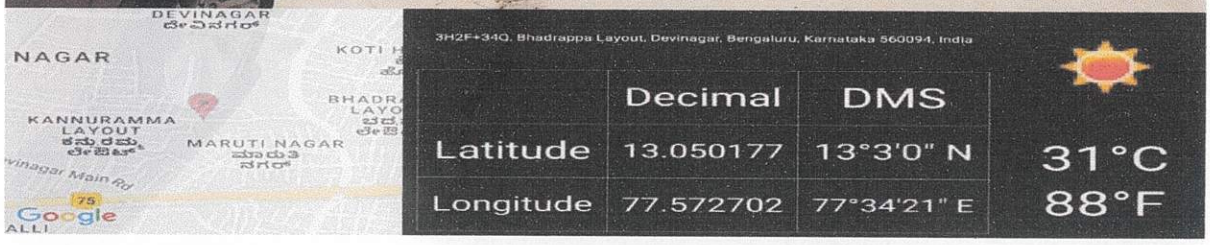
CROSS SECTION OF DRAIN

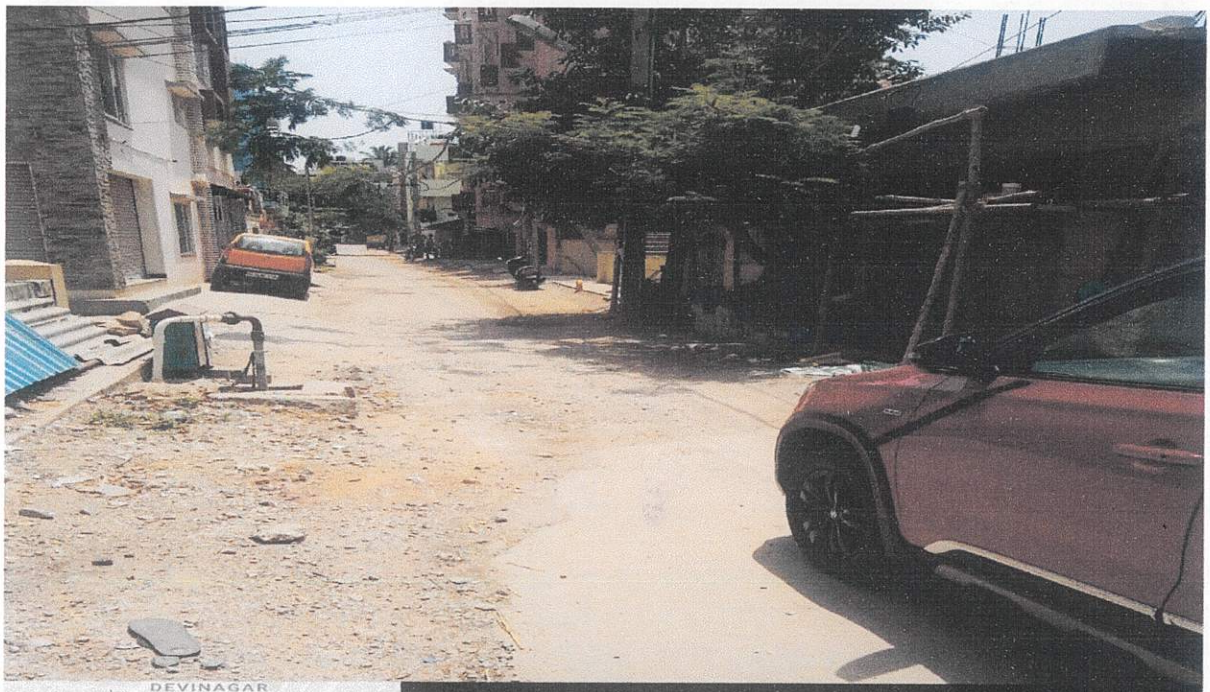
Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

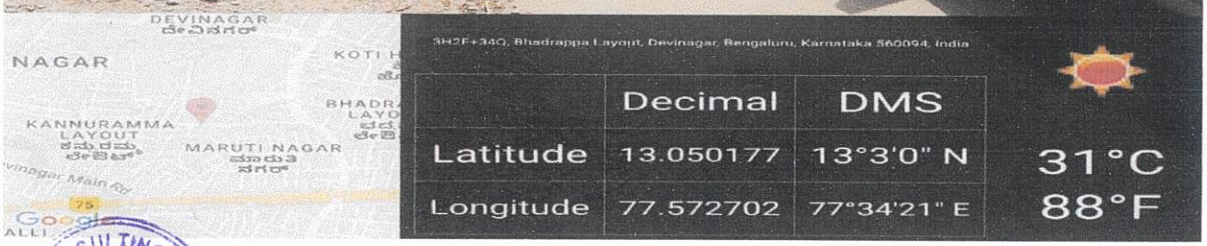
SILICON CONSULTING ENGINEERS

PHOTOS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

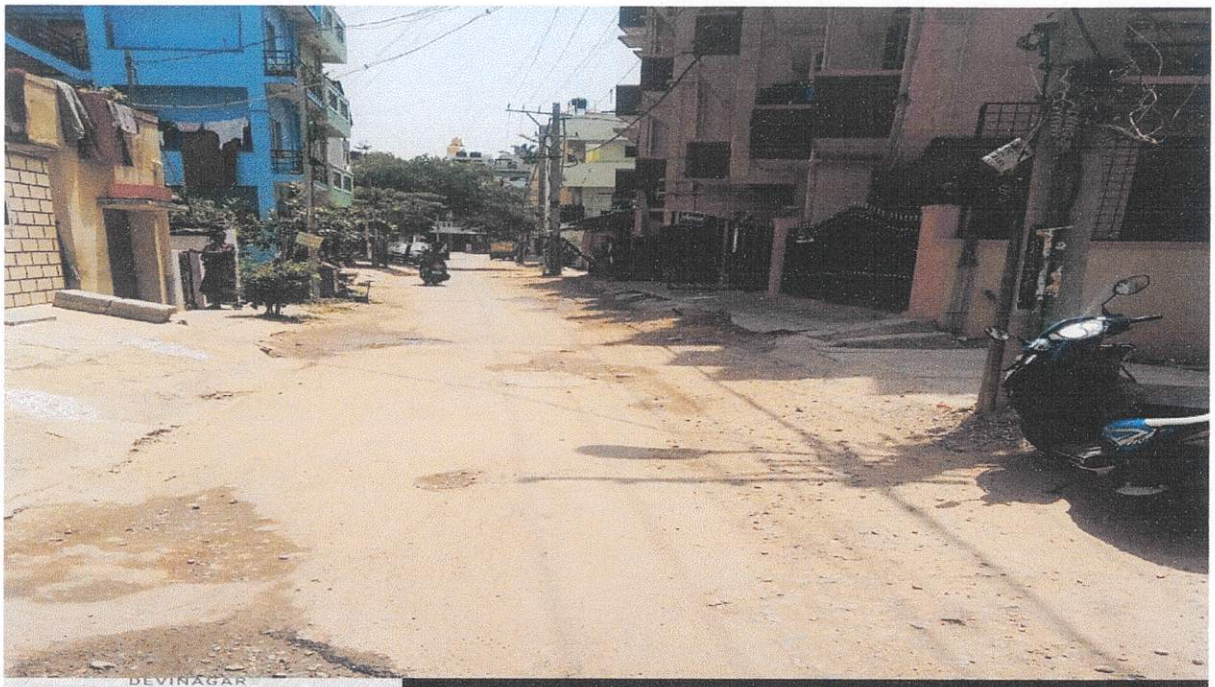


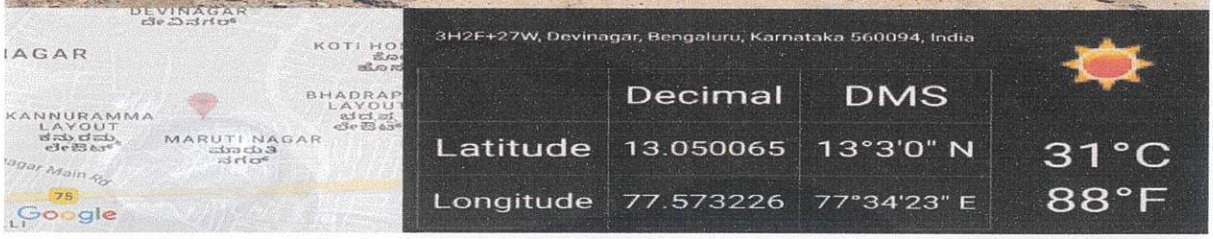


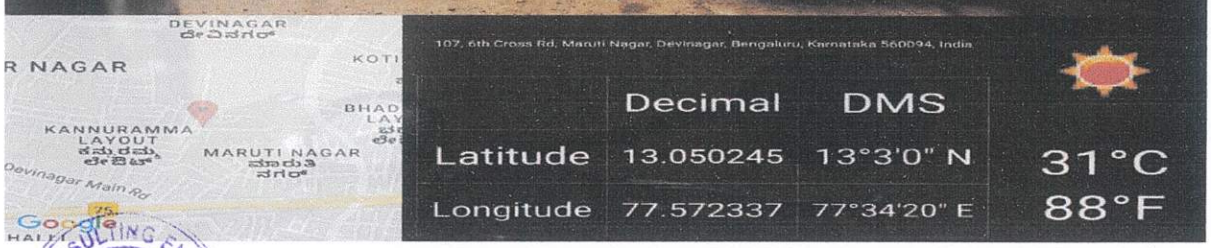


SILICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

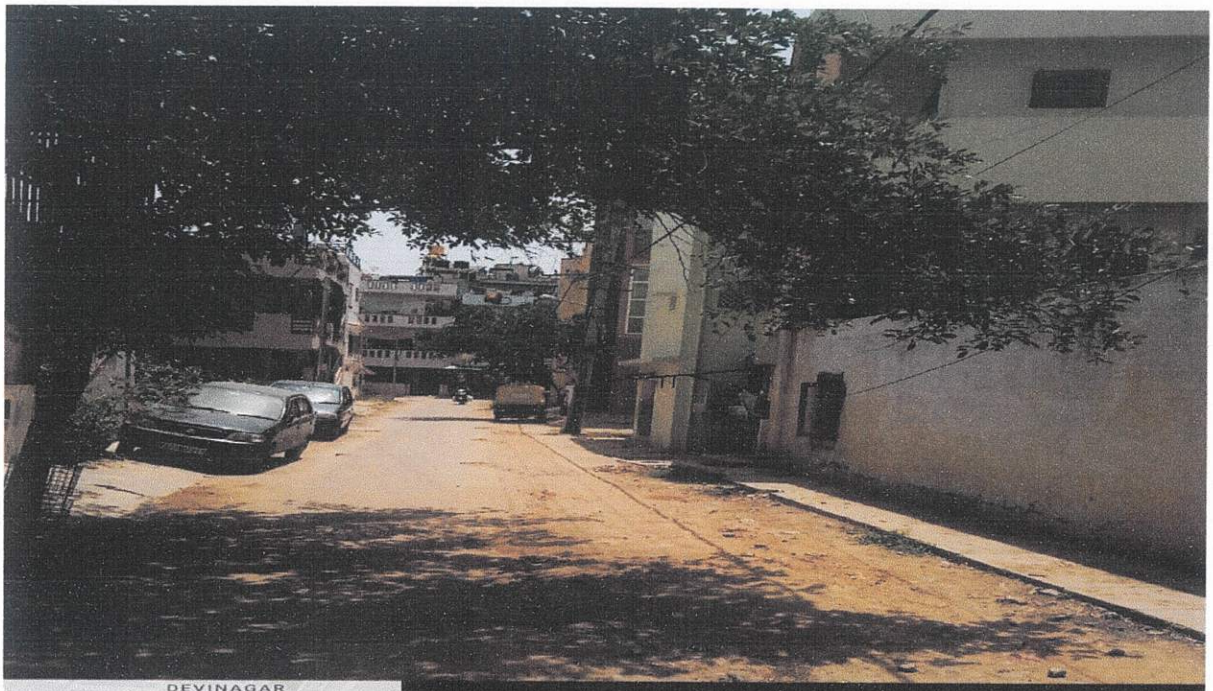


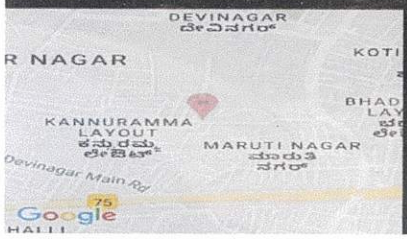




SILICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)





107, 6th Cross Rd, Maruti Nagar, Devinagar, Bengaluru, Karnataka 560094, India

	Decimal	DMS
Latitude	13.050245	13°3'0" N
Longitude	77.572337	77°34'20" E

31°C
88°F

Devinagar Main Road RMV 2nd Stage, Kannuramma Layout, Devinagar, Bengaluru, Karnataka 560094, India

	Decimal	DMS
Latitude	13.047985	13°2'52" N
Longitude	77.570052	77°34'12" E

31°C
88°F

ICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

Main, 2HX9+7QG, Devinagar, Bengaluru, Karnataka 560094, India

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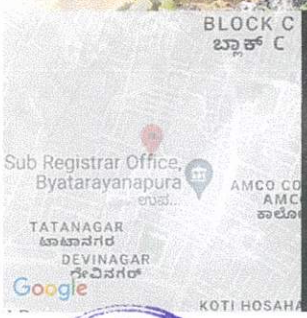

516, 4th Main Rd, Tatanagar, Kodigehalli, Bengaluru, Karnataka 560001, India

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Longitude	77.5743	77°34'27" E	90°F

SILICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

505, 4th Cross Rd, Tatanagar, Kodigehalli, Bengaluru, Karnataka 560092, India

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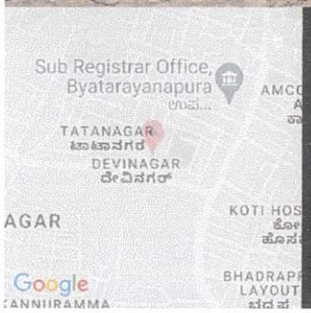
Longitude	77.574045	77°34'26" E

32°C
90°F



#338, 4th main, 8th Cross Rd, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

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Latitude	13.054554	13°3'16" N
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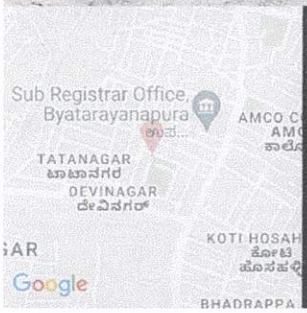
32°C
90°F

CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



354, 354, 3rd Main Rd, Tatanagar, Kodigehalli, Bengaluru, Karnataka 560001, India

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Longitude	77.574072	77°34'26" E	90°F

#313, 5th Main Rd, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

	Decimal	DMS	
Latitude	13.056794	13°3'24" N	26°C
Longitude	77.573721	77°34'25" E	79°F

SILICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

8, 5th cross Rd, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

	Decimal	DMS
Latitude	13.05478	13°3'17" N
Longitude	77.571957	77°34'19" E

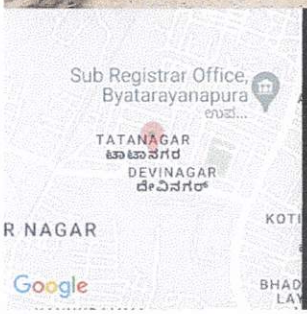
28°C
82°F

248, 248, 8th Cross Rd, Tatanagar, Kodigehalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS
Latitude	13.054748	13°3'17" N
Longitude	77.572182	77°34'19" E

28°C
82°F

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



248, 248, 8th Cross Rd, Tatanagar, Kodigehalli, Bengaluru, Karnataka 560001, India

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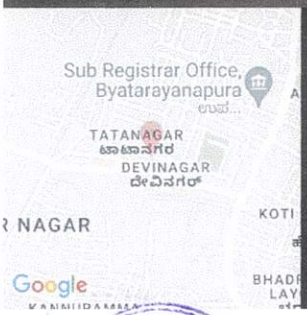

265, 9th Cross Rd, Tatanagar, Kodigehalli, Bengaluru, Karnataka 560001, India

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Latitude	13.054649	13°3'16" N	28°C
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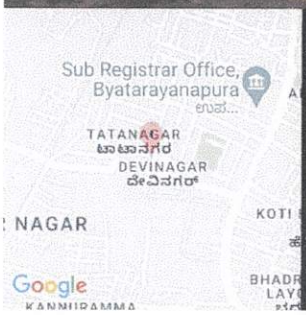
CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



265, 9th Cross Rd, Tatanagar, Kodigehalli, Bengaluru, Karnataka 560001, India

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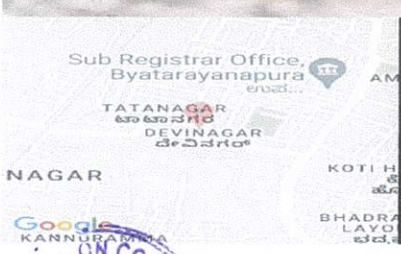
Latitude	13.054619	13°3'16" N	28°C
Longitude	77.572515	77°34'21" E	82°F



239, 8th Cross Rd, Tatanagar, Kodigehalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS	
Latitude	13.054493	13°3'16" N	28°C
Longitude	77.5728	77°34'22" E	82°F

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

237, 5th Main Rd, Tatanagar, Kodigehalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS
Latitude	13.055316	13°3'19" N
Longitude	77.573027	77°34'22" E

28°C
82°F

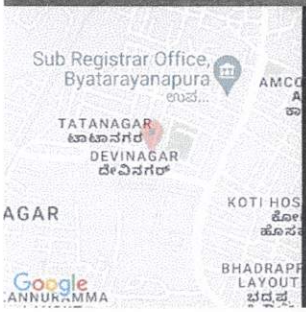
#338, 4th main, 8th Cross Rd, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

	Decimal	DMS
Latitude	13.054399	13°3'15" N
Longitude	77.573459	77°34'24" E

28°C
82°F

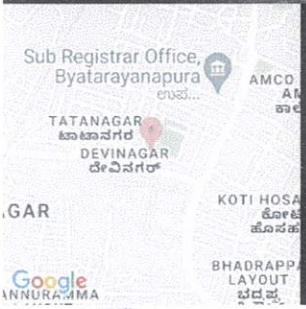
SILICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



300, 8th Cross Rd, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

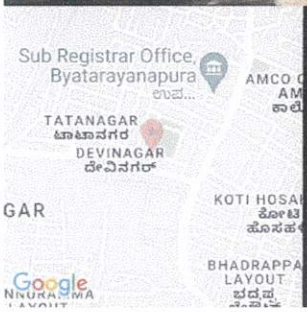
	Decimal	DMS	
Latitude	13.054346	13°3'15" N	28°C
Longitude	77.573438	77°34'24" E	82°F



F-7, Soorya Signature, 11th Main, 8th Cross Rd, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

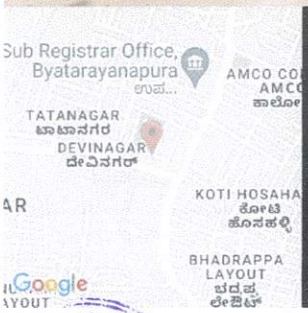
	Decimal	DMS	
Latitude	13.054343	13°3'15" N	28°C
Longitude	77.573682	77°34'25" E	82°F

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



F-7, Soorya Signature, 11th Main, 8th Cross Rd, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

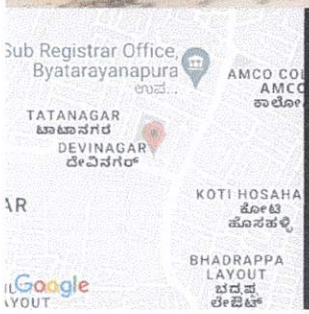
	Decimal	DMS	
Latitude	13.054284	13°3'15" N	28°C
Longitude	77.57385	77°34'25" E	82°F



2nd Main, JRD, 289, 8th Cross Rd, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

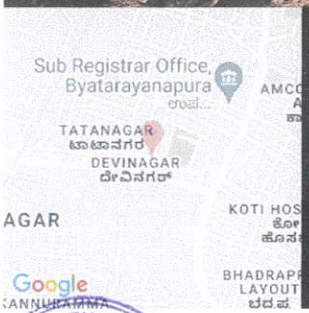
	Decimal	DMS	
Latitude	13.054116	13°3'14" N	28°C
Longitude	77.574409	77°34'27" E	82°F

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



2nd Main, JRD, 289, 8th Cross Rd, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

	Decimal	DMS	
Latitude	13.054081	13°3'14" N	28°C
Longitude	77.574453	77°34'28" E	82°F

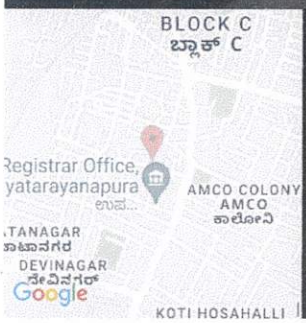


#338, 4th main, 8th Cross Rd, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

	Decimal	DMS	
Latitude	13.05452	13°3'16" N	28°C
Longitude	77.573383	77°34'24" E	82°F

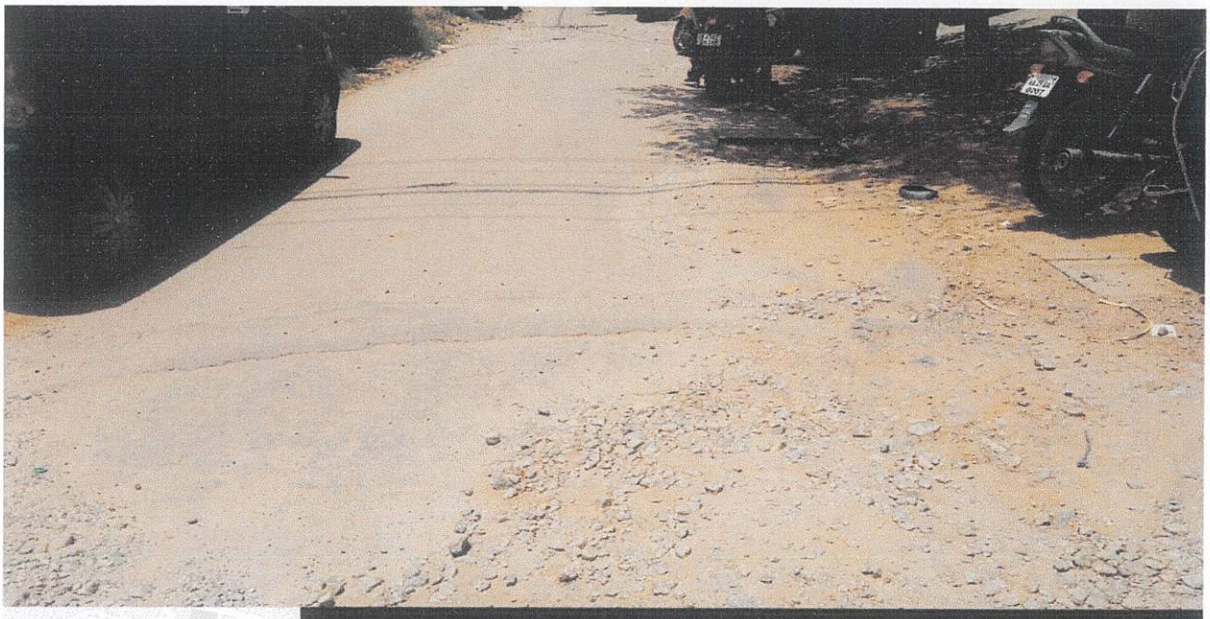
SAGON CONSULTING ENGINEERS

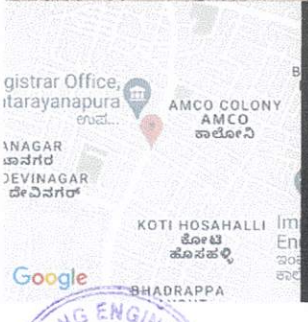
NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



4, 3rd Cross Rd, Tatanagar, Kodigehalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS	
Latitude	13.057334	13°3'26" N	28°C
Longitude	77.575619	77°34'32" E	82°F





47/1, Balaji Layout, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS	
Latitude	13.055204	13°3'18" N	28°C
Longitude	77.576189	77°34'34" E	82°F

CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

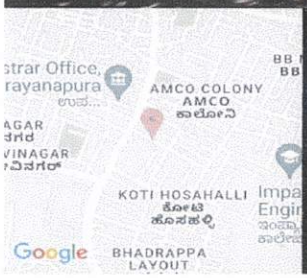
3H4G+4CF, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

	Decimal	DMS	
Latitude	13.055201	13°3'18" N	28°C
Longitude	77.576089	77°34'33" E	82°F

47, 1, Kodigehalli Main Rd, opp. HDFC bank, Tatanagar, Devinagar, Bengaluru, Karnataka 560092, India

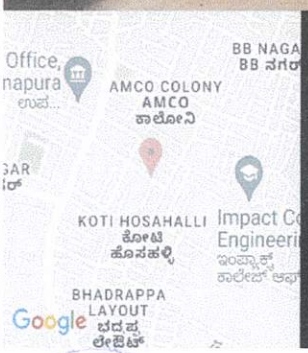
	Decimal	DMS	
Latitude	13.055158	13°3'18" N	28°C
Longitude	77.576131	77°34'34" E	82°F

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



51, Balaji Layout, Koti Hosahalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS	
Latitude	13.05481	13°3'17" N	28°C
Longitude	77.576782	77°34'36" E	82°F

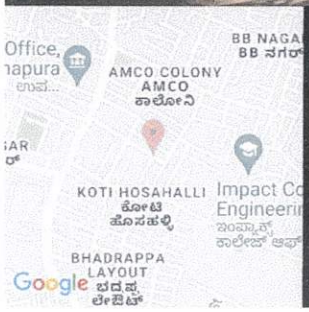


53, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS	
Latitude	13.054108	13°3'14" N	31°C
Longitude	77.577986	77°34'40" E	88°F

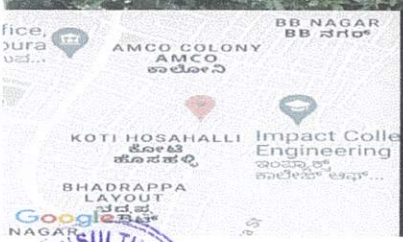
CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



53, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS	
Latitude	13.054053	13°3'14" N	31°C
Longitude	77.578074	77°34'41" E	88°F



67, Tatanagar, Koti Hosahalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS	
Latitude	13.053597	13°3'12" N	31°C
Longitude	77.578768	77°34'43" E	88°F

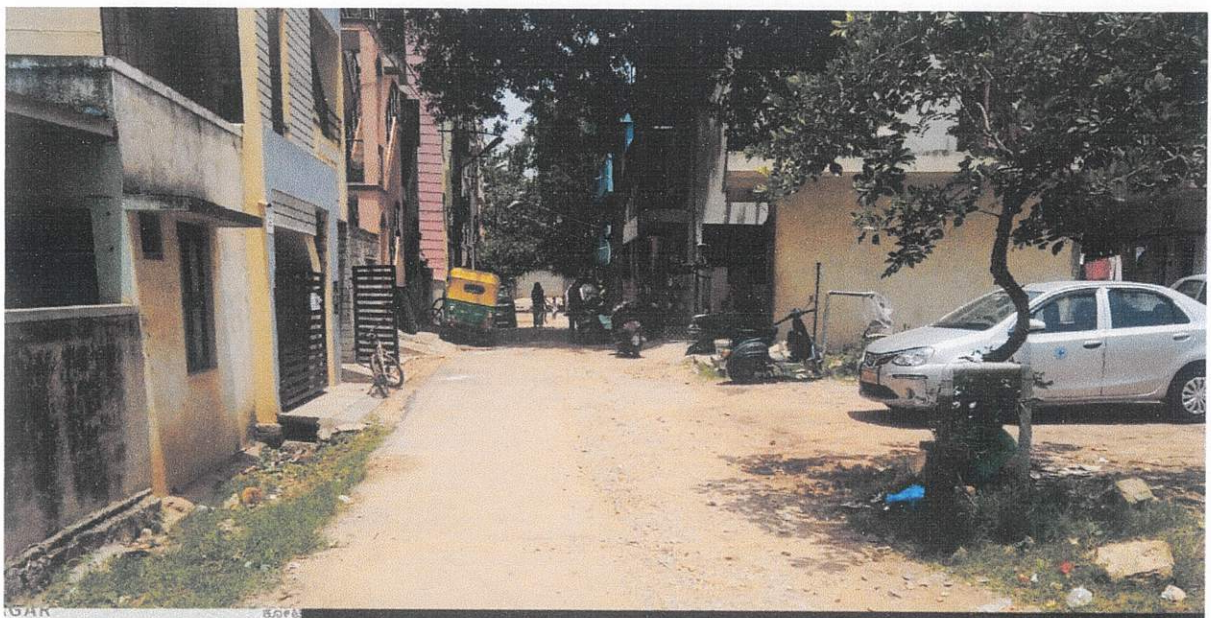
SILICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

64, Tatanagar, Koti Hosahalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS
Latitude	13.053212	13°3'11" N
Longitude	77.578563	77°34'42" E

31°C
88°F



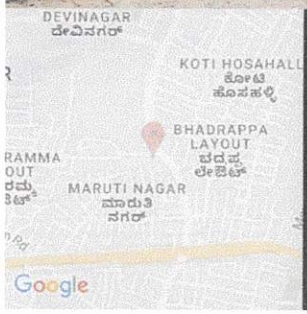
Manyata tech park, 2HXF+8FV, Maruti Nagar, Devinagar, Bengaluru, Karnataka 560094, India

	Decimal	DMS
Latitude	13.048255	13°2'53" N
Longitude	77.573674	77°34'25" E

31°C
88°F

SILICON CONSULTING ENGINEERS

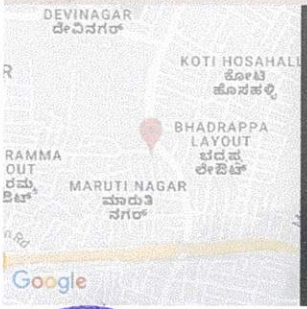
NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



19, 3rd Cross Rd, AGB Layout, Stage 2, Maruthi Nagar, Bengaluru, Karnataka 560096, India

	Decimal	DMS
Latitude	13.05018	13°3'0" N
Longitude	77.574942	77°34'29" E

31°C
88°F



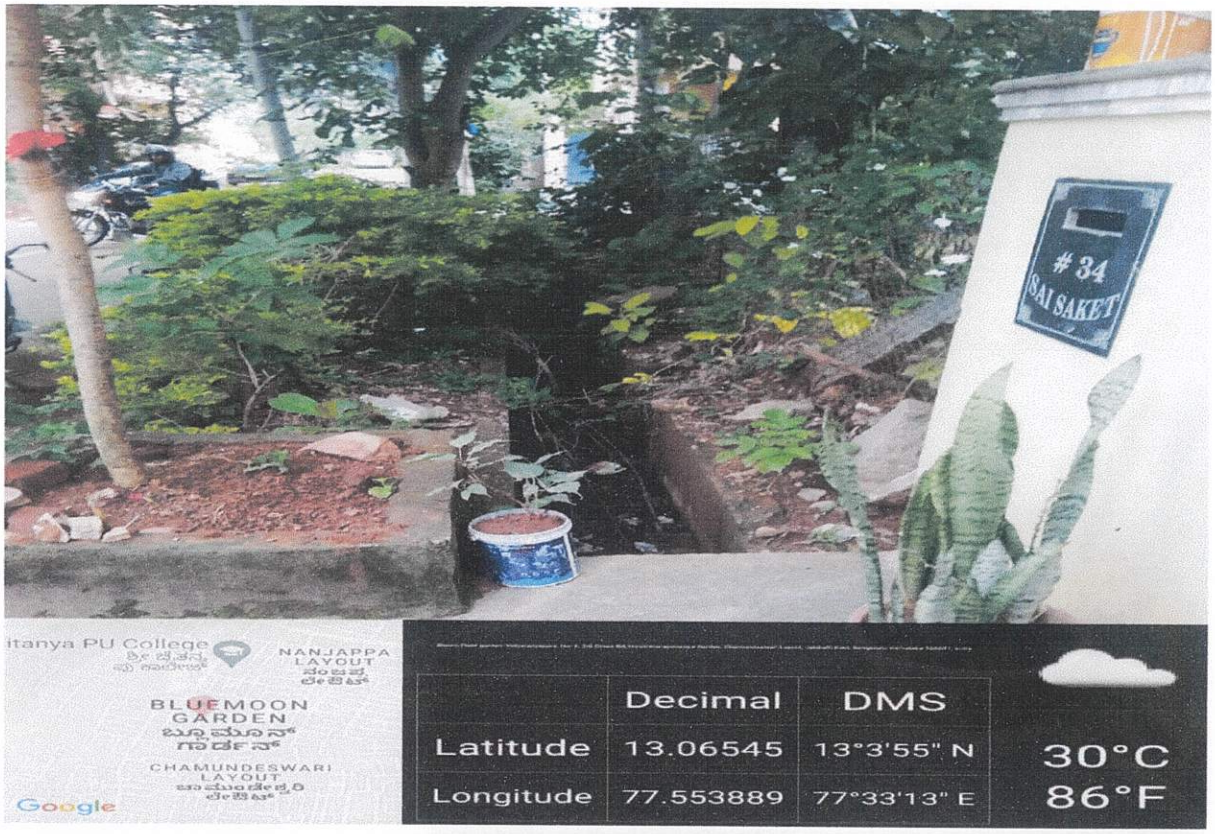
19, 3rd Cross Rd, AGB Layout, Stage 2, Maruthi Nagar, Bengaluru, Karnataka 560096, India

	Decimal	DMS
Latitude	13.050217	13°3'0" N
Longitude	77.574832	77°34'29" E

31°C
88°F

SILICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

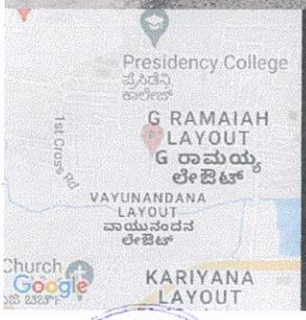


SILICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

10, 1st Main Rd, Hanumanna Layout, Howthinarayanappa Garden, Chamundeswari Layout, Jalahalli East, Bengaluru, Karnataka 560097, India

	Decimal	DMS	
Latitude	13.065511	13°3'55" N	30°C
Longitude	77.554964	77°33'17" E	86°F

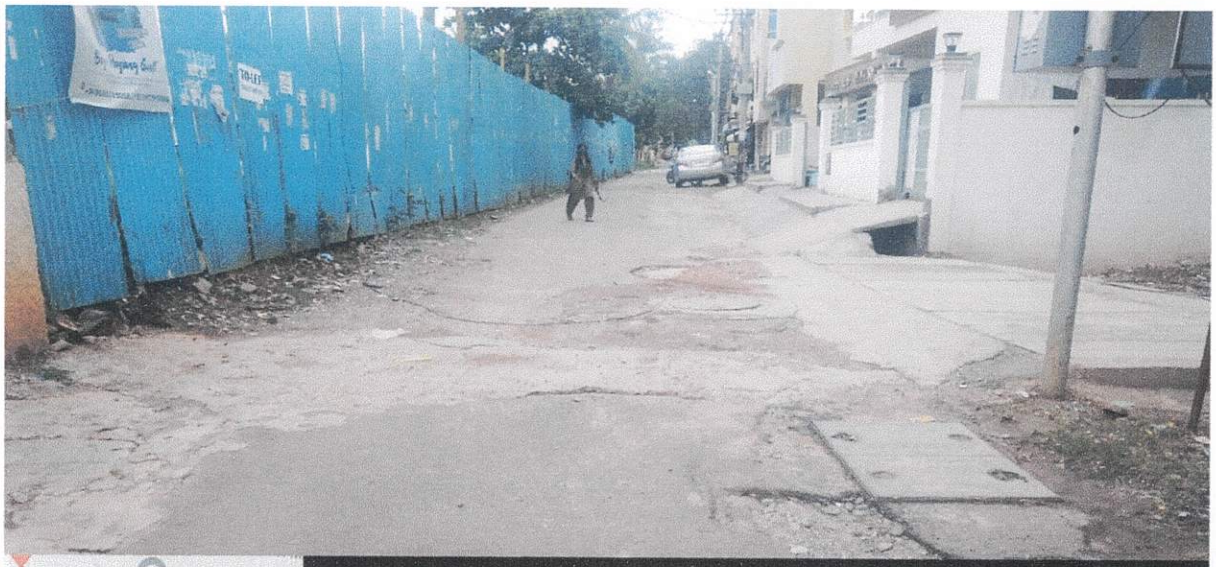


2HWX+Q44, Vayunandana Layout, Hebbal Kempapura, Bengaluru, Karnataka 560024, India

	Decimal	DMS	
Latitude	13.046823	13°2'48" N	27°C
Longitude	77.597909	77°35'52" E	81°F

SILICON CONSULTING ENGINEERS

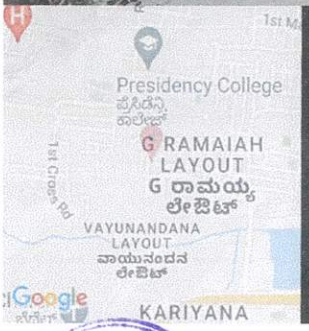
NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



2HWX+Q44, Vayunandana Layout, Hebbal Kempapura, Bengaluru, Karnataka 560024, India

	Decimal	DMS
Latitude	13.04694	13°2'48" N
Longitude	77.597996	77°35'52" E

27°C
81°F



2HWX+X7C, G Ramaiah Layout, Narubhavi Munirathnamma Compound, Vayunandana Layout, Hebbal Kempapura, Bengaluru, Karnataka 560024, India

	Decimal	DMS
Latitude	13.047504	13°2'51" N
Longitude	77.598066	77°35'53" E

27°C
81°F

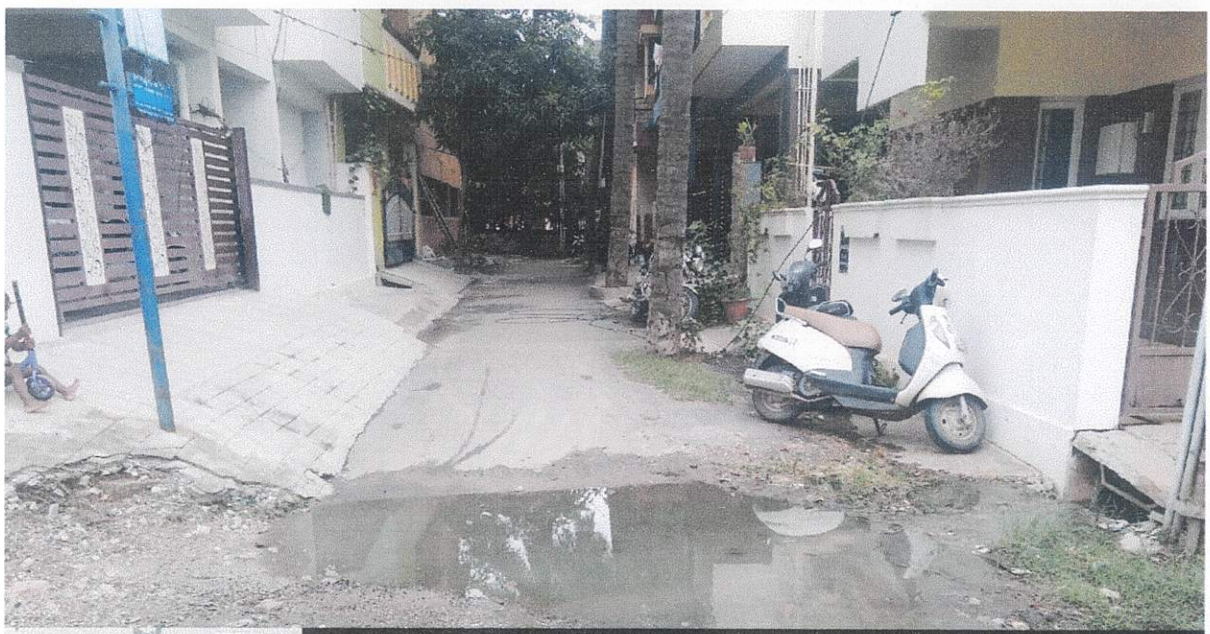
MYSORE CONSULTING ENGINEERS

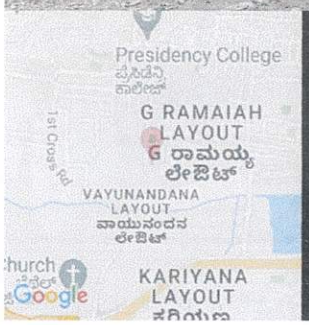
NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

2HXX+249, Chiranjeevi Layout, Hebbal Kempapura, Bengaluru, Karnataka 560024, India

	Decimal	DMS
Latitude	13.047481	13°2'50" N
Longitude	77.59798	77°35'52" E

27°C
81°F



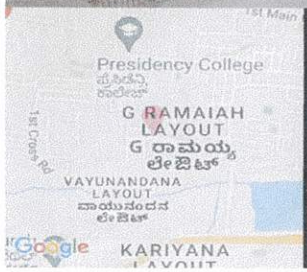


13, G Ramaiah Layout, Bhoopasandra, Hebbal Kempapura, Bengaluru, Karnataka 560024, India

	Decimal	DMS
Latitude	13.04653	13°2'47" N
Longitude	77.598112	77°35'53" E

27°C
81°F

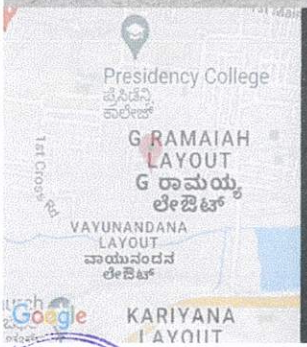
NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



2HWX+WF2, G Ramaiah Layout, Nerubhavi Munirathnamma Compound, Ramaiah Layout, Hebbal Kempapura, Bengaluru, Karnataka 560024, India

	Decimal	DMS
Latitude	13.047187	13°2'49" N
Longitude	77.598731	77°35'55" E

27°C
81°F



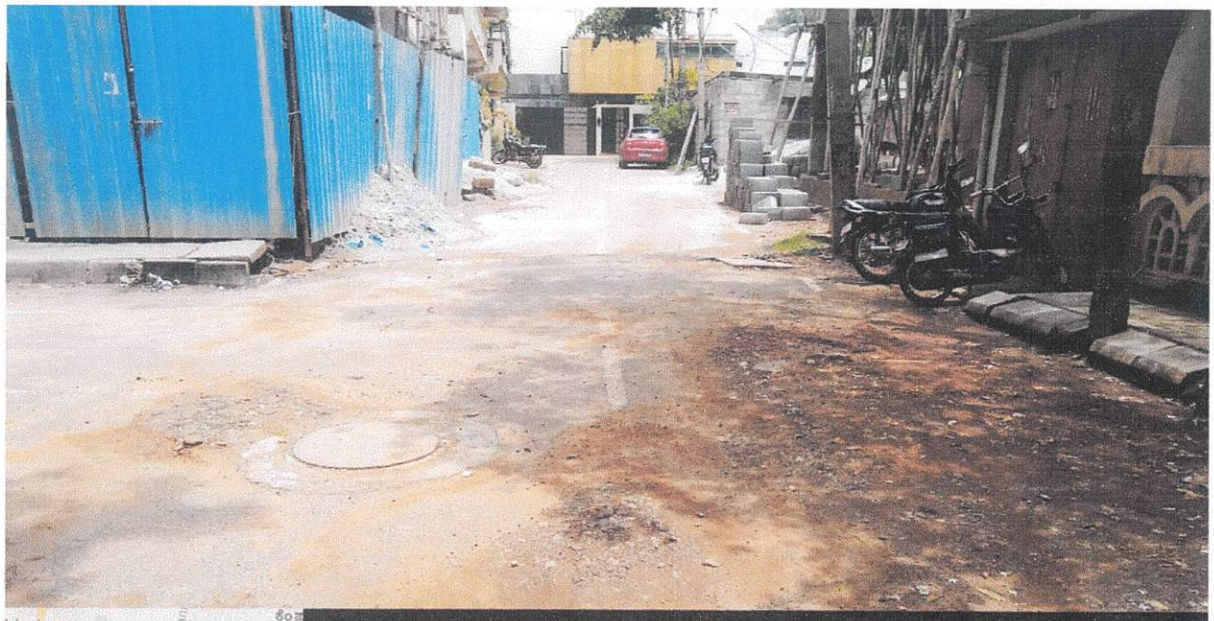
2HWX+RCJ, G Ramaiah Layout, Muniswamy Gowda Layout, Hebbal Kempapura, Bengaluru, Karnataka 560024, India

	Decimal	DMS
Latitude	13.046969	13°2'49" N
Longitude	77.59866	77°35'55" E

27°C
81°F

CONSULTING ENGINEERS

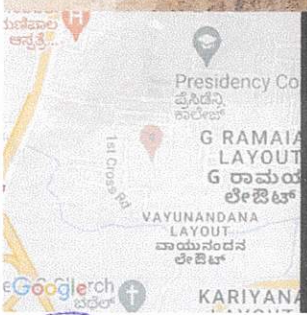
NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



1st Cross, 1st Main Rd, Chiranjeevi Layout, Hebbal Kempapura, Bengaluru, Karnataka 560024, India

	Decimal	DMS
Latitude	13.048031	13°2'52" N
Longitude	77.59687	77°35'48" E

27°C
81°F



2HWW+WC3, Chiranjeevi Layout, Hebbal Kempapura, Bengaluru, Karnataka 560024, India

	Decimal	DMS
Latitude	13.047346	13°2'50" N
Longitude	77.596276	77°35'46" E

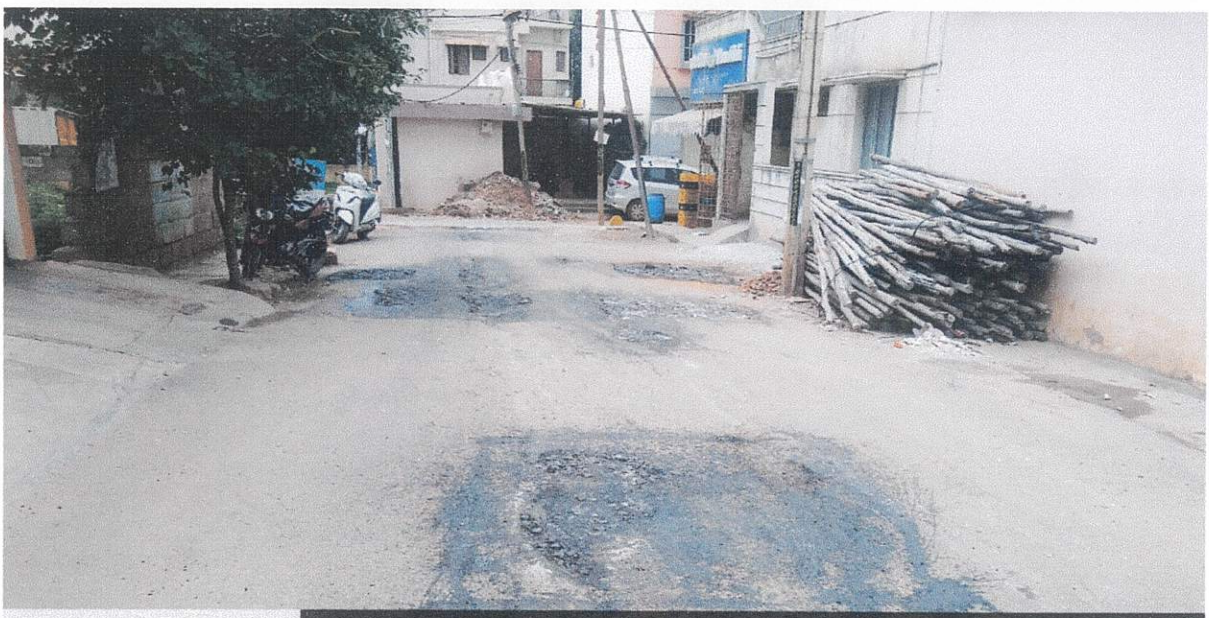
27°C
81°F

CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

13 Vrindavan Garden Apartments, 3rd Main, Chiranjeevi Layout, Hebbal Kempapura, Bengaluru, Karnataka 560024, India

	Decimal	DMS	
Latitude	13.048959	13°2'56" N	27°C
Longitude	77.597771	77°35'51" E	81°F



Main, 2HX9+5JM, Devinagar, Bengaluru, Karnataka 560094, India

	Decimal	DMS	
Latitude	13.047928	13°2'52" N	25°C
Longitude	77.569031	77°34'8" E	77°F

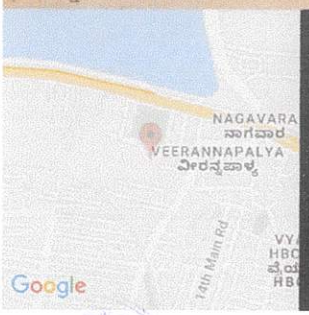
CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

2JR6+J7Q, Jogappa Layout, Nagavara, Bengaluru, Karnataka 560045, India

	Decimal	DMS
Latitude	13.041391	13°2'29" N
Longitude	77.611003	77°36'39" E

25°C
77°F

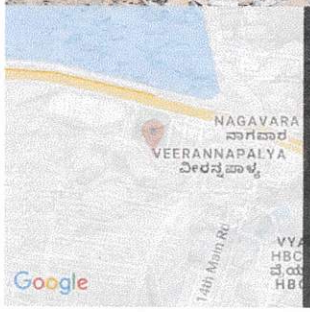


Hkgn Hksm Pg, Hkgn Hksm Pg, 2, 5th Cross Road, Lawrence Layout, Veerannapalya, Nagavara, Bengaluru, Karnataka 560045, India

	Decimal	DMS
Latitude	13.041146	13°2'28" N
Longitude	77.610395	77°36'37" E

25°C
77°F

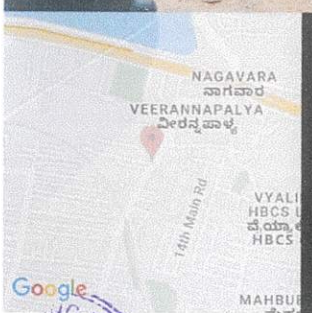
NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



Hkgn Hksm Pg, Hkgn Hksm Pg, 2, 5th Cross Road, Lawrence Layout, Veerannapalya, Nagavara, Bengaluru, Karnataka 560045, India

	Decimal	DMS
Latitude	13.041312	13°2'28" N
Longitude	77.610443	77°36'37" E

25°C
77°F



2JQ6+VCR, 4th Cross Rd, Jogappa Layout, Nagavara, Bengaluru, Karnataka 560045, India

	Decimal	DMS
Latitude	13.039824	13°2'23" N
Longitude	77.611068	77°36'39" E

25°C
77°F

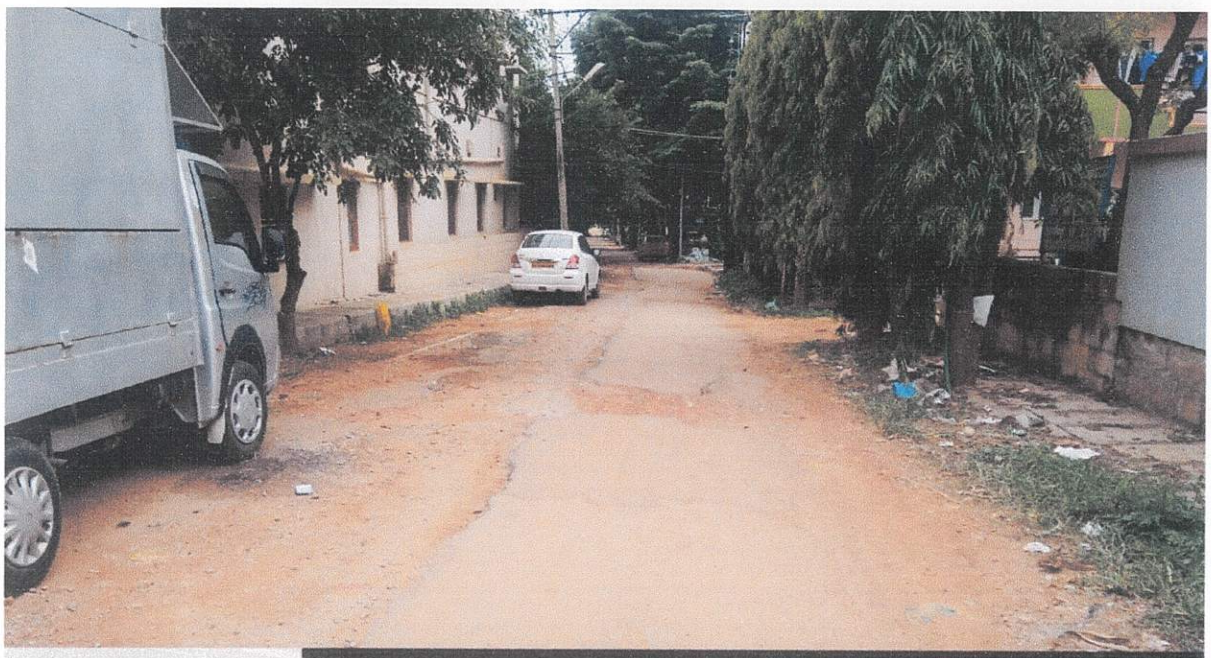
ENGINEERS

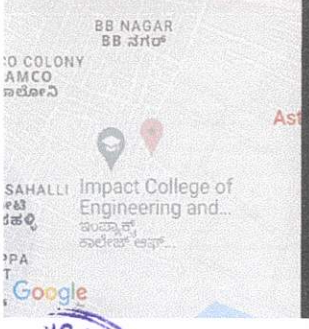
NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

10, 10, 2nd Cross Rd, Shanthivana, Sanjeevini Nagar, Bengaluru, Karnataka 560001, India

	Decimal	DMS
Latitude	13.057369	13°3'26" N
Longitude	77.584618	77°35'4" E

25°C
77°F





3H3J+HPX, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560092, India

	Decimal	DMS
Latitude	13.053886	13°3'13" N
Longitude	77.582224	77°34'56" E

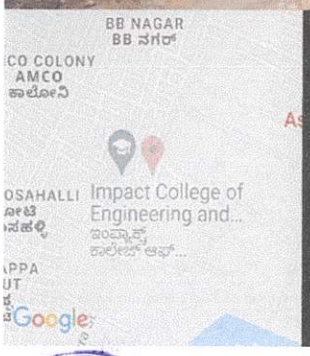
25°C
77°F

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

3H3J+HPX, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560092, India

	Decimal	DMS
Latitude	13.053886	13°3'13" N
Longitude	77.582224	77°34'56" E

25°C
77°F



3H3J+CQ7, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560092, India

	Decimal	DMS
Latitude	13.053485	13°3'12" N
Longitude	77.581947	77°34'55" E

25°C
77°F

SILICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

18, 18, Amco Layout, Nagashetty Halli, Koti Hosahalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS
Latitude	13.053112	13°3'11" N
Longitude	77.581706	77°34'54" E

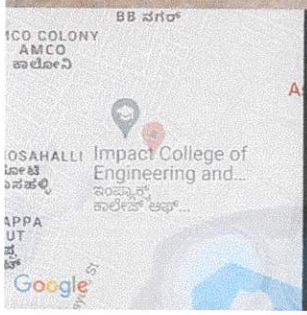
25°C
77°F

3H3J+CQ7, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560092, India

	Decimal	DMS
Latitude	13.053443	13°3'12" N
Longitude	77.58202	77°34'55" E

25°C
77°F

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



18, 18, Amco Layout, Nagashetty Halli, Koti Hosahalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS
Latitude	13.052931	13°3'10" N
Longitude	77.581846	77°34'54" E

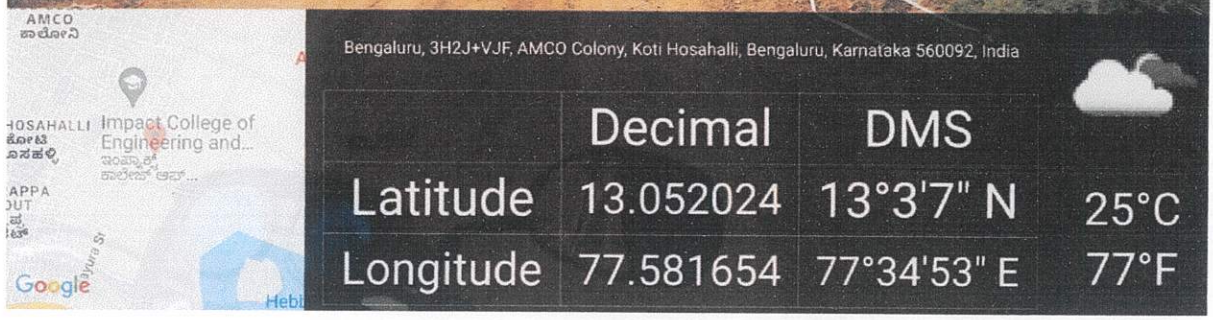
25°C
77°F

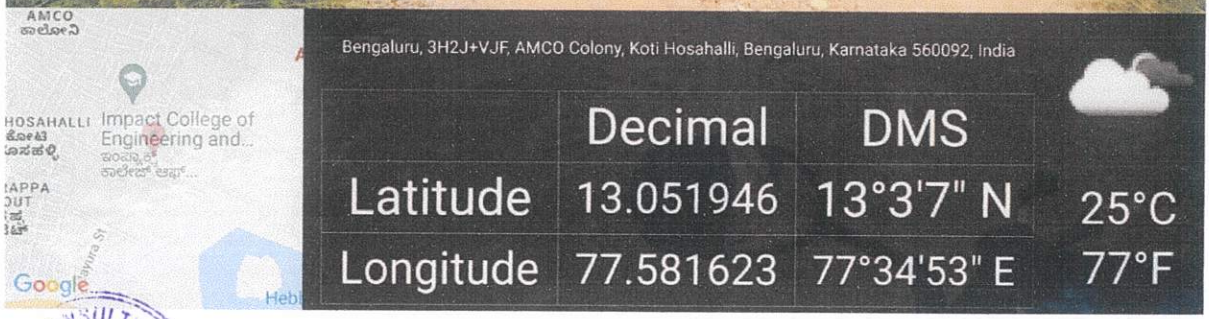
18, 18, Amco Layout, Nagashetty Halli, Koti Hosahalli, Bengaluru, Karnataka 560001, India

	Decimal	DMS
Latitude	13.052512	13°3'9" N
Longitude	77.581802	77°34'54" E

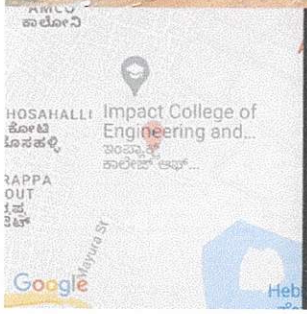
25°C
77°F

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)





NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)



17, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560092, India

	Decimal	DMS	
Latitude	13.051735	13°3'6" N	25°C
Longitude	77.581531	77°34'53" E	77°F

17, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560092, India

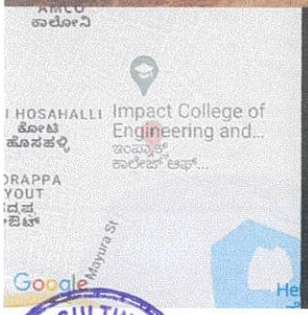
	Decimal	DMS	
Latitude	13.05141	13°3'5" N	25°C
Longitude	77.581415	77°34'53" E	77°F

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

17, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560092, India

	Decimal	DMS
Latitude	13.051528	13°3'5" N
Longitude	77.581007	77°34'51" E

25°C
77°F



17, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560092, India

	Decimal	DMS
Latitude	13.051723	13°3'6" N
Longitude	77.581224	77°34'52" E

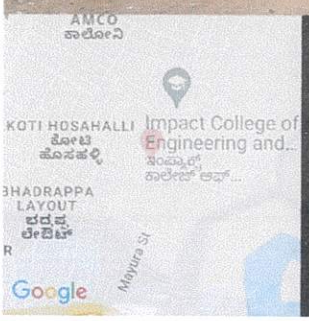
25°C
77°F

SILICON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

17, AMCO Colony, Koti Hosahalli, Bengaluru, Karnataka 560092, India

	Decimal	DMS	
Latitude	13.051723	13°3'6" N	25°C
Longitude	77.581224	77°34'52" E	77°F

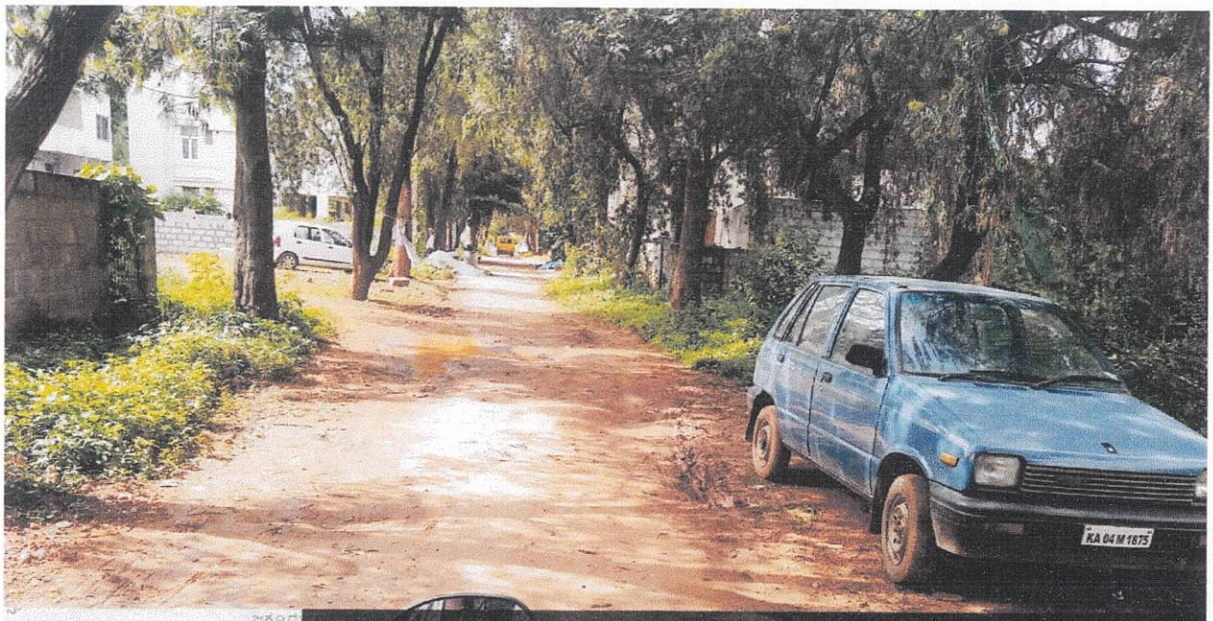


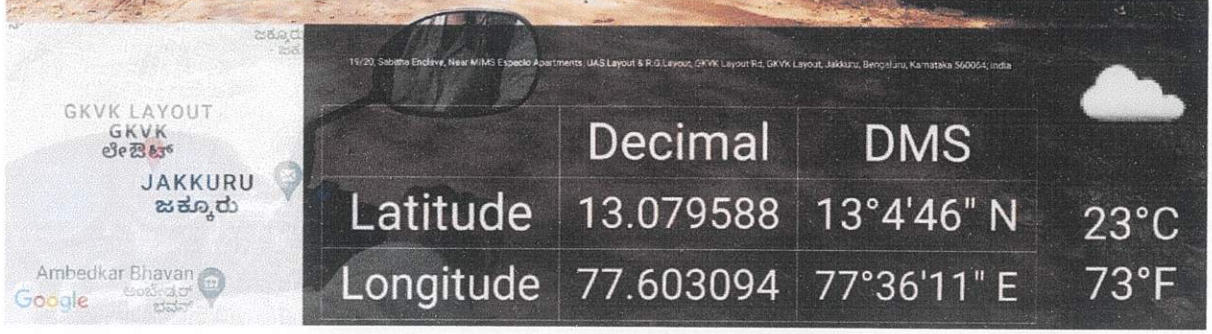
6th Main Road, Mayura St, Balaji Layout, Bhadrappa Layout, Koti Hosahalli, Bengaluru, Karnataka 560094, India

	Decimal	DMS	
Latitude	13.051829	13°3'6" N	25°C
Longitude	77.580213	77°34'48" E	77°F

CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)





MULCON CONSULTING ENGINEERS

NAME OF WORK:PACKAGE NO.03(Consists Of 5 Works)

409, GKVK Layout, Jakkuru, Bengaluru, Karnataka 560001, India

	Decimal	DMS
Latitude	13.080153	13°4'48" N
Longitude	77.603085	77°36'11" E

23°C
73°F

3JG3+6M6, Jakkuru Main Rd, Jakkuru, Bengaluru, Karnataka 560064, India

	Decimal	DMS
Latitude	13.075562	13°4'32" N
Longitude	77.604205	77°36'15" E

23°C
73°F

SILICON CONSULTING ENGINEERS